

PRINCIPLES
OF
CLASS TEACHING

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PREFACE

THE title of this book is given to us by Professor J. J. Findlay. When he published his *Principles of Class Teaching* in 1902 he raised the discussion of pedagogical problems from the rule-of-thumb manuals of the nineteenth century into an exposition of principles to be worked out and modified in the varying conditions of the classroom. We were privileged to work with him in the Fielden Demonstration School attached to the University of Manchester, where, under his vigorous leadership, many of these principles were tested.

His work and writings have influenced more than a generation of teachers throughout the world. But in that time the structure of the national system has been profoundly changed, necessitating the rewriting of his book, and this task he entrusted to us.

We owe a debt to many unnamed writers, for a book which covers so wide a field must be in many respects eclectic. But special mention should be made of the Reports of the Consultative Committee of the Board of Education, which have been closely followed in our chapters on the curriculum.

We are indebted to Professor Findlay, and to Professor J. F. Duff of Manchester, for many helpful criticisms and suggestions.

FRANK SMITH
A. S. HARRISON

January 1937

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PART ONE

PRELIMINARY CONSIDERATIONS

CHAPTER I

INTRODUCTION

BEFORE the topic of this book can be discussed, it is necessary to consider the wider field of education within which it lies. For before teaching can proceed, the children have been gathered together by some agency, and a motive has been accepted as the justification for creating the machinery of the school.

The term education is used in two different senses, and it is necessary to distinguish between them, as John Stuart Mill once did in a famous address.¹ The wider meaning includes every influence in our life. In Mill's words : " Not only does it include whatever we do for ourselves, and whatever is done for us by others, for the express purpose of bringing us somewhat nearer to the perfection of our nature ; it does more : in its largest acceptance, it comprehends even the indirect effects produced on character and on the human faculties, by things of which the direct purposes are quite different ; by laws, by forms of government, by the industrial arts, by modes of social life ; nay, even by physical facts not dependent on human will : by climate, soil and local position. Whatever helps to shape the human being : to make the individual what he is, or hinder him from being what he is not—is part of his education."

The narrower meaning of education, the meaning as employed in ordinary speech and in Acts of Parliament, Mill described as " the culture which each generation

¹ Inaugural Address at St. Andrews, 1867.

purposely gives to those who are to be its successors, in order to qualify them for at least keeping up, and if possible for raising, the level of improvement which has been attained". It is, of course, with the second meaning alone that this book is concerned.

In general terms, then, it may be said that education springs from the desire of the adult portion of the community (organised in the forms of the Family, the State, the Church and other associations) to promote the welfare of the rising generation. This it does by the employment of certain deliberate modes of influence, as an addition to the inevitable influences of culture and environment that operate upon all human life. These specific influences are called "Education", and those who exercise them (whether professionally or incidentally) are called teachers.

From this description it follows that the ultimate authority is the community, working through one or other of the social organisations which use the teacher as the agent. It is important to add that this should not limit the range of the teacher's professional responsibility, and legitimate authority, which should be supreme within the walls of the classroom. While it is his duty to try to achieve the aims which the community desires to promote, he must be free to use his professional knowledge and experience in selecting the methods of teaching and controlling his pupils.

There are many kinds of teacher besides the professional teacher who, indeed, is found only in societies which, having progressed to a relatively high standard of civilisation, are able to recognise the value of deliberate systematised efforts to promote the welfare of the young. The professional teacher cannot ignore their aid; he must seek increasingly the co-operation of those who are not teachers by profession, yet have an

equally deep interest in the child's welfare.

The whole of the rising generation are subjected to the process of education because of their youth and immaturity. But a general exposition of class teaching, such as this book offers, cannot include the very specialised methods which have been found necessary for children who are abnormal or defective. Pupils of weak intellect, or suffering from grave physical defect, were at first ignored in the educational system ; later, some of them attended the ordinary schools and created many difficulties ; in recent years, especially during the present century, there has been an increasing provision of Special schools which could provide a suitable education for the main types of physically and mentally defective children.

The study of education includes three main groups of problems : the aim, the control and the practice. This book is concerned only with the third, but some brief reference to the other two is desirable. For the three must always keep one another in sight, and the student must be prepared to revise conclusions drawn from one field in the light of their relations to the others. The teacher cannot allow the philosopher to propound the aim of education, or the politician to determine the principles of control, without considering their possibilities in practice. A system of education which is in touch with the realities of life, which plays its part in the behaviour of those who profess it, must be a unified whole, and the teacher should consider the relation of his professional problems in the school to the wider field of inquiry which education includes.

Many attempts have been made to define the aim of education in a succinct phrase, varying from Herbert Spencer's utilitarian standard of complete living to Herbart's ethical standard of morality, and from the

Aim of
education

schoolmaster's emphasis on knowledge to the more picturesque claim of interests. Some writers have attempted to synthesise apparently conflicting aims in a wider concept. On the whole, such discussions have interested few people, for they appeared to many to be theoretical and remote, and the complex of education seemed to escape any simple definition.

Yet behind these attempts at definition there lies an issue which, as recent events have shown, concerns the individual in the most intimate way. Political changes in many countries have raised in an acute form the old problem whether man is to be considered as an end or as a means, and upon our answer to that question depends our view as to the aim of education. If we are educating man for a life of freedom, for the fullest possible realisation of his capacities and their service in the community, we shall start from a point directly opposite to that which views man as a creature of the State, a passive slave whose only good is that he can foster the good of the State. The nature of the State will vary from country to country, but the individual must bow to its demands: in Russia he must be a Communist, in Germany a National Socialist, in Italy a Fascist. On this view, education is to be subservient to politics, and the aim of education is to force upon every pupil a creed which he must not question.

To those who regard man as an end, of value for himself, such a view is inadequate, and the individualistic strain that has run through English political thought for many centuries is alien to it. Man claims his rights as an individual, claims the right to shape the policy of the State, and the right to oppose the State, if need be, when reason and conscience are violated. For he distinguishes between Community

and State, between the whole life which he shares with his fellows, and those partial aspects which the State covers, thus denying the identification of Community and State. The State must be the servant of the Community, and in certain aspects of life it has no jurisdiction.

The overthrow of democratic forms of government in many countries, and the emergence of a dictator who claims to be the mouthpiece of government, has been followed by an appearance of orderliness and discipline which has been defended as a positive good, but so far as post-war Europe is concerned no reliable judgment can be made as to its value until further time has elapsed. There is no doubt that millions have acquiesced because the danger of refusal was so great; but when a man is not convinced, and yet dare not express his opposition, he must nurse his resentment until expression can no longer be suppressed.

An earlier German philosopher, Kant, had a loftier view of the educative process than the passive acceptance of a temporary political régime. He taught that education is not only for the present but also for the future, and must have reference not only to the State as it is, but to the ideals of humanity and to the whole destiny of man.

We must choose, therefore, between the view of State supremacy which regards man as a means, and the view which values him as an end, seeking to win his co-operation in building up a society to which he can make his own unique contribution, and through which he can enjoy a richer life. This latter view implies the faith that, in recognising his debt to Society, he will accept the restraints necessitated by partnership with others; and knowing that the good of the whole is fostered by the contribution he can make, he will

be stimulated to raise the value of that contribution. On this view he will best serve himself when he most faithfully serves his fellows.

Such a faith is not easy to realise and is liable to many disappointments, but the responsibility of those who hold it was never so clear as at the present time. And they may find consolation from the history of education ; for the most successful teachers were those who conveyed to their pupils a sense of confidence, a conviction that there was something to be done which this pupil or that could best do.

The view here taken may be summarised by saying that the aim of education is the development and enrichment of personality, alike in the individual life of which it is the expression, and in the diverse relationships to others which make up our human civilisation. General as such an aim may seem, it serves two important purposes : it denies that the good of the State is the first consideration, and it suggests that many of the aims put forward—knowledge, discipline, liveliness, interest, and so on—are partial and incomplete.

It is possible, of course, to make more precise a kind of minimum content that the development of personality must include, though impossible to lay down the full extent of its range. The concept of personality is not static, but developing ; in attempting to analyse it we can only state what educationists of our own time mean by it. So far as schools are concerned, the aim includes the training of the body, mind and will to their full strength, and the fitting of the individual for a life with his fellows, not only in his immediate surroundings, but throughout the world. There was a time when schools had a much more restricted aim ; they neglected the body, they gave little or no social training, and they felt no necessity

to teach any ideas of world citizenship. The present state of our knowledge and the discernment of new problems thrusts deeper needs upon the school. The training of the body is necessary, not only for the sake of health and practical efficiency, but because body and mind influence each other in the most intimate way. The training of the mind has always been claimed as a school aim, though at times it has almost been synonymous with the memorising of knowledge and the acquirement of habits. It means far more ; it means a training in selecting, in judging, and in reasoning between alternatives. The training of the will, the development of character, has also been universally claimed as a school aim, and it means not only the preliminary training which consists of controlling selfish impulses by ordered habits and by the development of right sentiments, but also the much more difficult acquirement of a sensitive conscience, and a sense of duty which impels the individual to do what is right. The socialising of the individual, the acquirement of the graces which enable the individual to live and work with others, to choose worthy leaders, to work for the general good, is an end which the school must increasingly respect, for its need grows more urgent and experiences outside school grow more limited. In the small communities of former times the child was socialised through his daily experience ; he knew how miller, weaver, tailor and carpenter supplied his needs ; he knew where his food came from ; he could grasp the simple structure of society, and realise his own place in it. But these experiences have been withdrawn from the child. The small community has become the large city ; the specialisation of industry has destroyed the self-contained community ; the development of transport and communica-

tions has made the world an economic unit. Vast and complex as is this social and economic system, the school must attempt to explain it to the child, and help him to realise that his wants are supplied by workers in every country, to whom he is bound by common ties. It is no light task, for the child must be led through the familiar loyalties of home and school to district and country, and beyond that to a larger world, where prejudice and animosity so easily destroy the weak sympathy and incomplete knowledge that the school can give.

Control of
education Responsibility for the welfare of the young is laid, in the first instance, upon various "associations" of the community, and these claim a share in the control of education. The claim is based upon some recognised function which they fulfil for the common good. The earliest of these associations, and also the earliest form of political and social organisation, is the Family. The latest, and now the most dominant, is the State, functioning both through local and national organisation. Besides these we have the Churches, with their claims to guard the spiritual interests of the child, and many other associations, which, in one age or another, have found some motive for taking up the cause of education.

With so many claimants to a share of control it is not surprising that conflicts have arisen between them, conflicts which still linger in our midst, though with a decreasing bitterness. For there is an increasing recognition that the welfare of the young is the prime motive in control, and though there remain differences of interpretation as to the best means of achieving the ideal, the principle has brought the combatants nearer together in the common purpose of serving the child.

The national system of education is controlled by a

hierarchy of bodies ranging from the Board of Education to the small Education Committees of urban districts or the managers of a single school. The Board administers because it has a financial control over all other public agencies ; the Local Authorities organise, for upon them is laid the duty of surveying the needs of their areas, and of preparing schemes to meet the needs. This policy of decentralisation, begun in 1870, and extended in 1902 and 1918, has increased the responsibilities of the Local Authorities. Outside these public agencies there are many private associations which supply and maintain schools.

We have admitted to the full the duty of the teacher to the community and, therefore, to the authorities set up by the community for the control of education, yet we must equally claim for him the privileges of a profession, and draw a sharp line between the province of the lay authority and that of the teacher. The creation of a body of recognised teachers, equipped by professional studies and experience for the discharge of their specific task, involves the recognition of this distinction ; the growth of professional knowledge and the raising of the standard of admission into the profession has made the distinction increasingly obvious in the last generation. The teacher's work is of an expert nature, and lay authority should not be allowed to usurp the teacher's place by prescribing the time, manner and method of his activity, by laying down detailed requirements of curriculum or text-book. The Authority requires certain results, and it has the right to know how far the teacher's efforts are successful, but it will be wise to give him full scope for originality in method and for initiation in experiment. Teaching is a skilled craft, and its creative work is best done in an atmosphere of freedom. But the teacher is shaping material

that is not his own, and he must, therefore, satisfy the Authority, whether it be Family, or State, or Church, as to the results of his work. So much is now generally accepted in this country ; the real difficulty is to agree upon the best methods of estimating the achievement of the school. Mechanical results are most easily measured, and tend to be over-emphasised by the controlling authorities ; there are other results which defy exact measurement, yet they are of greater importance.

Practice of education It is usual to distinguish the Theory and Practice of Education, and there has been a tendency to separate and contrast them. But it is more and more recognised that theory and practice—in any field of study—are only separated by violence, and that separation is injurious to both. Theory should inform practice, and practice should correct theory, and the two should grow in a mutual relationship. Even the self-styled “ practical ” man has a theory, as every intelligent man must have when he reflects upon his work. What the theorist does is to express and formulate these reflections in more systematic form.

A manual on the practice of education would include the organisation of the school for teaching, the selection of a curriculum, the methods of teaching and the means of organising social activities, and would relate these to the nature and development of the pupil. But some aspects of the problem are of less importance to the class teacher. In so far as school organisation means the building of schools and the application of the science of hygiene, the teacher is not directly concerned. Nor does the teacher determine the admission of the scholars. It is only when the school is built and the scholars are inside that the teacher's work of organisation begins. He must divide them into teach-

able groups, select a syllabus and construct a time-table before teaching can proceed.

Every branch of practice needs to take account of the number of pupils who are in a group at any one time, and there are many opinions as to the best possible size of a class. In most schools the size is determined not by educational but by financial reasons, and the economists have continually lamented the increasing cost of smaller classes. While there has been steady improvement in the reduction of the number of large classes, the gulf is still wide enough between the ideal and the reality. There are good educational reasons for putting the number of the class at 25-30: such a group is sufficiently large to keep corporate work vigorous, and reasonably small enough to allow the teacher to give individual care and attention to pupils according to their varying needs. The Board of Education suggests that in elementary schools the number in junior classes should not exceed 50, and in senior classes 40. The Secondary schools have generally adopted 30 as a maximum, though some have classes of 35. Classes of 40 and 50 have proved too large for individual methods of teaching, and they perpetuate the mass methods and repressive discipline which the enormous classes of the elementary school enforced after compulsory education was established. Some schools still have classes with more than 50 pupils.

The size of a class need not be the same for all types of lessons; in the science laboratory and in the craft rooms, where the variety of individual needs is so great, and the oversight of apparatus and tools is so exacting, 20 has been regarded as the desirable number, though in practice it is frequently exceeded. On the other hand, there are subjects whose appeal is enhanced by numbers, as in singing, or a musical or dramatic

recital, for a large audience generates enthusiasm, and increases enjoyment more easily than a small one.

The size of classes necessarily influences the methods of teaching. In many elementary schools, where 40 or more children are in the charge of a single teacher, lessons which aim primarily at the acquisition of skill must be modified, and the best results cannot, in fairness, be expected. For example, no pupil can be trained properly in the arts of speech if his opportunities for oral expression are curtailed, and the teacher is compelled to fall back on recitation in chorus. Such hindrances to sound method cannot be removed by the teacher; the authorities who employ him are responsible, and they still need convincing that the "economy" of the large class is, at times, an extravagance.

However large a class may be, the methods of handling it must always be based on our acquaintance with the individual child. The unit in education is not the school, or the class, but the single pupil. Doubtless a pupil will behave very differently when alone from when one of a group, but in the group he still retains his individuality, and the methods by which his mind is directed are those by which the minds of the others are directed. Hence the necessity for studying children individually; hence, also, the plea that smaller classes would raise the general level of teaching-skill in our schools.

The
teacher's
task

Similarly, the selection of a curriculum is not in the hands of the teacher alone, as we shall see in the next chapter; for both old and new forces combine to thrust one subject or another upon the school, urging that each is the one thing needful. Against this pressure the teacher can offer little resistance, and his complaint of the "overcrowded" curriculum is the

result. His task is to select the material in the light of his understanding of his scholars' needs and attitudes, to grade it according to their capacity and understanding, to reject those aspects of it that he deems unsuitable. Teachers in Great Britain are fortunate, on the whole, in this respect, and enjoy a greater freedom than do their colleagues in most other countries, where a detailed scheme is laid down by a central authority. Our Board of Education makes " suggestions " to teachers, but it does not impose uniformity.

It is with the devising of methods of teaching, and with the directing of the pupils' activities, that the teacher is most directly concerned. Herbart distinguished three aspects in this task, Teaching, Government and Guidance. He pointed out that, although the ostensible business of teacher and pupil is concerned with some branch of study, the teacher is, all the while, exercising a personal influence over his pupils ; he is both governing them by authority, and guiding them through the influence of his personality. Later writers have pointed out that this influence is not confined to the teacher ; it is exercised by the whole school community on the individual, and each individual contributes to its strength and its tone. Government and Guidance, in contrast to Teaching, may be described as Training, and the process of Training is proceeding throughout the school day, although the teacher cannot be perpetually conscious thereof. It is not confined to the hours of lessons, and the effect of Training is more easily observed during the periods which are spent apart from teaching. A school society imbued with an active and wholesome corporate life achieves the moral ends of education with a completeness far beyond what is possible where corporate life is meagre, and this truth has permeated the

schools more thoroughly during the present century than at any former time.

Plan of
the book

This book is concerned with the daily work of the teacher in the practice of education, and the term "class teaching" must not be understood in a narrow sense. The present-day school has, in addition to classrooms, many special rooms for specific activities, and organised teaching proceeds in them. And since both teaching and training may go on out-of-doors, in playground, garden or playing-field, and on school excursions and school journeys, these activities are also the teacher's concern. There are sound precedents for this wide range of meaning ; David Stow a century ago invented a new name for the school playground, calling it the "uncovered schoolroom" for the excellent reason that an important part of the child's training is received there.

The teacher's work is conditioned by the curriculum, the type of school and the mental and physical development of the pupils, and these topics will be discussed in Part One of this book. In Part Two the curriculum as it is adapted to different types of school will be considered, while in Part Three various principles underlying methods of teaching will be reviewed.

CHAPTER II

ORIGIN AND DEVELOPMENT OF THE CURRICULUM

THE child is sent to school for a variety of reasons. He needs the fundamental skills of reading, writing and counting to enable him to play even the humblest part in modern life ; he needs information of a wider world than experience presents ; he requires practice to assist him in analysing and solving more intelligently the problems that life will offer ; his environment offers less and less scope for the physical and mental training which will develop and co-ordinate his muscular system ; he needs opportunities to develop the personal aptitudes he possesses, say in music or art, both for the satisfaction they may give now and for the recreative hobbies they may provide in later years. It is the child's undeveloped powers and his limited experience and knowledge which make schooling necessary. Necessity
of school-
ing

A normal, healthy child is ready to be interested in almost everything that comes to hand ; why, then, should he not be allowed to follow his own bent and exercise his own choice ? While many people will brush aside the question, others, adopting the standpoint of Rousseau, press for an answer. This is forthcoming from history ; the school is provided to protect the child during his years of infancy from some of the physical, mental and moral dangers that beset him. It was the neglect and evil condition of children at the end of the eighteenth century that moved the philan-

thropists to provide "schools for all", and the record of those times is sufficiently convincing of the need for schools or some similar provision. There are those who warn us against the dangers of destroying self-activity, and of stifling originality, but the evidence is equally clear that it is disastrous to leave the child alone. For he has little or no power of selection; when he is thirsty he will drink poison as readily as water, and when he imitates he is indifferent as to whether he is establishing good or bad habits. He has little method in the pursuit of knowledge; he is eager and willing, but he gropes in the dark.

The function of the teacher, then, is a twofold one: he has to select material which will best occupy his pupils, and he must devise methods which will enable them most effectively to get the best from it. But the child's right to exercise his own activity must be safeguarded. He may himself appropriate good material by remarkable methods of his own, and the teacher must not frustrate such work by a slavish devotion to system and rule. If pupils feel, on leaving school, that their curiosity is satisfied and their learning at an end, the teacher will find it profitable to consider the problem and ask himself why the material has been unpalatable, and where the method has been wrong.

The range from which the occupations of the school may be chosen is immense, and the mere enumeration of them would make a formidable list. Through the jostling crowd of subjects which claim the attention of the pupil at one time or another we must attempt to find our way by first inquiring what are the motives which have led men to thrust this or that occupation upon the child in school. A clear understanding of these motives should help the teacher in the arrangement of a curriculum.

The predominant motive in the past which determined the curriculum was the desire of the adult to fashion the child after his own image. The grown man knows life ; he has tasted of the tree of knowledge ; he wishes to forewarn his children of perils not yet encountered, and to equip them with powers that some day may be required. So he adds subject to subject in the school course as fresh needs are discovered ; he calls for more " useful " pursuits—for instruction in science, in shorthand and typewriting, in domestic science, in modern foreign languages and so on. Many parents favour these additional subjects, in the hope that they will give their children a better chance in life. To the French of their own school days they would add German and Spanish ; to chemistry and physics they would add biology ; to history they would add economics.

Motive of
equip-
ment :
two
views

This plea of equipment for adult life was used in past times for subjects which now seem inevitable and commonplace in every school. Thus the art of reading was made universal because of the view that every child needed the means to acquire for himself a knowledge of the Scriptures. Luther in Germany inspired his countrymen to establish the *Volksschule* on this plea ; and it was used in England at the end of the eighteenth century, when universal education was first conceived to be practicable.

The validity of this law of equipment is manifest. Yet it makes increasingly heavy demands on the young, and the cry of over-pressure in the schools, of the overcrowded curriculum, of the greater severity in competitive examinations, causes alarm from time to time. The age of compulsory education has been raised in the attempt to cope with it, but there are critics who declare that the child learns little because he is taught so many things.

Equipment for life tends to introduce more and more occupations into the school, but there is also a view of equipment which emphasises the retention of the old and tried subjects of the curriculum, rather than the introduction of new ones. The instruction of the young among all great nations has been a transmission—of literature, story, song and pious exercise—from the days of old, kept in memory by many visible signs and rituals. By this method the child imbibed the culture of his own people through the inspiring stories of a heroic past, and the adult was satisfied to reproduce the same qualities and the same views as of old. This is the conservative principle: the desire of the adult to reproduce his name and race in those who follow. He finds his inspiration and his consolation in the achievements of the past, its language, literature, history and philosophy, and he desires that the young shall absorb the same great tradition.

To deny the force and the eternal value of this view would be to deny our kinship with mankind, for the story of humanity's struggles and achievements through the ages, its victories and defeats, its glories and its shame, is material of the deepest human interest. Yet, in itself, it is not enough as the determinant of the curriculum.

In a very real sense these two views are only different aspects of the same principle; they both express the adult's desire to prepare the child for a future still remote, the one by multiplying modern studies, the other by emphasising those which have stood the test of time. Man is both forward-looking and backward-looking, both progressive and conservative, and in admitting the validity of equipment we include both aspects.

The separation of the two has evoked much con-

troversy, as, for example, the old quarrel between the "ancient" and the "modern", and the current opposition between the "bread and butter" studies of technical instruction and the more remote pursuits that claim the name of "liberal" studies. Such separation is unfortunate. The vast extensions of modern knowledge, the achievements of science, the glamour of new mechanical triumphs give to the newer subjects of the curriculum all the attractiveness of novelty, and the traditionalists who affect to despise the "bread and butter" studies which necessity ordains are doing little service to their own cause. It is claimed that there is a cultural value and a great human tradition inherent even in the "bread and butter" studies, and those who cherish the gifts of the past must be prepared to meet the challenge of the present on reasonable grounds.

The single principle of equipment determined the curriculum through the ages, but a second principle is now so fully recognised that it ranks equal with the first. It is the recognition of the rights of the child to be absorbed as a child in the natural occupations of childhood. The idea that the child may have rights against the elders is alien to the older view, which in any difference regarded the adult as the court of appeal, ready to bring in a verdict favourable to itself.

There is no darker page in history than the record of the child's sufferings. In the long, sinister story of infanticide, in the cruel practice of exposure, in the superstitious practices regarding new-born children which are still found among primitive peoples, can be seen the insignificance and helplessness of the child, and the unimportance of his life save for the single fact that, some day, he would become an adult. The emergence of any sympathy with the child victim was a

Satisfac-
tion of
child
nature

slow process. No doubt the beginnings of it came from religious teachers, who placed a higher value on childhood than custom prescribed, but it is only in comparatively recent times that it has been fully and generally accepted. We do not always remember how modern is the frequently heard phrase that we must do this or that for the sake of the child.

The brutal punishment inflicted in the school is a fact of history, and it reflected the general attitude. The child was withdrawn from the occupations he preferred and compelled to perform the tasks imposed by his elders, and the school was reduced to the use of bodily chastisement and of fear as the compelling force. It is some consolation to remember that the boys who showed no aptitude for books were soon removed to some other task. A few outstanding teachers invented methods to make lessons a little more palatable, and to beget interest as a secondary motive, but the curriculum was little changed through many centuries.

So far as educational theory is concerned the beginning of the modern point of view is seen in the work of Locke and Rousseau, who laid the foundations of a new approach to childhood, and of Pestalozzi and Froebel, who applied the new principles to the daily work of the school. Fundamentally the view was that the child is a growing organism, developing in terms of ascertainable laws, and as rightly a subject of study as any other organism. This view seemed less strange to the scientific temper of the nineteenth century than it would have done to any previous age, and it has slowly won almost universal acceptance.

Hence our modern view is that the nature of the child must be taken into account in selecting the pursuits best suited to his development, and thus to the law of equipment is added the law of child nature.

Indeed, so zealous for the child are some modern writers that they would make the second law their only guide and, paradoxically, the child becomes the adult's mentor. We do not accept this view; we have argued that the law of equipment is valid, that the child is preparing for a life which he may alter but cannot ignore, and that he must learn something of a past which carries within it the seeds of the present and of the future. But the child is no passive recipient; he is spontaneous and self-determining, and takes a hand in the process that is going on. We therefore give equal recognition to the law of child nature. The teacher's problem is to reconcile the two laws; to find occupations which will satisfy the interests and capacities of the growing child, and at the same time equip him for the future and teach him the wisdom of the past.

For the investigation of child nature we are dependent on our intuition, psychological knowledge and the findings of experimental education. This is not the place to attempt to summarise psychological theories, which are to be found in bewildering profusion and even contradiction, elsewhere. It will be sufficient to trace in outline some of the effects of psychology on education, and the way it has influenced the curriculum as educational reformers have grasped and applied some new concept.

The best known and most persistent psychological theory was the Faculty Psychology of the eighteenth century, a theory which divided the mind into a large number of independent faculties, called reason, memory, imagination, observation and so on. The task of education, on this view, was to select activities which were supposed to exercise these faculties in the most effective way, and much ingenuity was shown in trying

Influence
of psycho-
logy

Error of
faculty
psycho-
logy

to justify a subject because it "trained the reason", or "developed the imagination". The psychology was false, yet the pedagogy based on it flourished long after the psychology was discarded, and its echoes are still heard in schools. As Professor James Ward wrote nearly half a century ago: "It is humiliating to reflect that the defunct doctrine of faculties, having first retarded the progress of psychology itself, should now be revived to darken knowledge under the guise of psychology applied to education".¹

Modern psychology rejects the assumption of separate and independent faculties. They are aspects of mental activity, separated only for convenience of analysis, but always associated in the unity of mental experience. Their separation leads to abstraction and unreality. Pedagogy was led astray by the same error; it adopted unreal divisions between school occupations, and then tried to justify these divisions by reference to faculties. In the end, teachers of each subject were claiming the same values, as can be seen from any nineteenth century manual of teaching; drawing claimed to train observation, memory, imagination and taste; the teacher of Latin, who affected to despise drawing, was attempting to justify his own subject for well-nigh the same reasons.

Even if faculty psychology had been sound, it was not the explanation of the curriculum. Spelling lists were never taught because they "trained the memory"; they were taught because correct spelling was a necessary skill in life, and the motive of equipment was their *raison d'être*. The interest to us of faculty psychology is that it directed educationists to the need for child-study in establishing a well-balanced curriculum, and raised the question of the mental effects of different

¹ *Journal of Education*, November 1890.

school activities. It is deplorable that its phraseology should still persist in school.

A second current of educational thought centres round the term "interest". From the time of Rousseau, and through the work of Pestalozzi, Froebel and Herbart, there runs the claim of the child to be considered as a human being with his own nature, capacities and interests. This recognition was based not merely on psychological theory, but was the expression of a deeper social passion. Rousseau was the author not only of *Émile*, but also of the *Contrat Social*; and Pestalozzi's *Leonhard und Gertrud* is a romance which portrays not only a reformed school, but also a reformed village life.

Doctrine
of interest

The term "interest" has been much misunderstood. By many it was thought to imply that the occupations of the school are necessarily tedious, and that a few illustrations, a more lively manner, and perhaps a joke or two, would enliven matters. The pill must be swallowed, but the teacher might add a little jam to disguise its flavour.

Herbart's doctrine of interest is completely contrary to this conception, and goes behind such superficial treatment. He holds that new knowledge can be acquired by the pupil so as to arouse feelings of pleasure, and this condition of mind he describes as a state of genuine interest. This should arise from the subject in hand, for the pupil possesses an abundance of interests, which he is ready to explore. There is no need to induce these feelings artificially, for this only tends to divert attention to an alien stimulus.

The same general principle can be expounded from the standpoint of apperception, which embraces a wider range. By interest we refer usually to a subjective condition, but apperception considers also the

Apper-
ception

objective element in the process, *i.e.* the nature of the new ideas which are to be apperceived, and includes under one term the whole procedure by which the mind advances to new fields of knowledge, including in this act not only the intellectual processes, but also the outflow of feeling and the effort of attention which share in producing the result.

Thus apperception directs our attention to the nature of the learner's mind, and the mode of its approach to new ideas. What the pupil learns is interpreted in terms of what he already knows, and no two pupils will derive identical ideas from even the same concrete object. Hence the general principle of apperception—that the learner's knowledge about the attitude towards the new idea will condition his interest in it—is of permanent importance in teaching.

Correlation

Another term of historical interest is correlation, which, although especially advocated by the Froebelians, may be readily brought into line with the doctrine of apperception. For a new piece of knowledge is not an isolated fragment; if it were, it could not be assimilated at all. It can only take its place in the manifold structure of mental content by right of kinship with what is already there.

It is easy to see the many ways in which the principle of correlation has exerted practical influence in the school. Art is increasingly linked to other branches; geography helps history; mathematics is more and more used in all the sciences. A specialist system of teaching tends to keep subjects apart, yet it is the same boy who learns grammar, arithmetic, history and so on, as the day proceeds. All unconsciously he will seek for some mode of combination which will enable these alien elements to remain side by side in his mind; and, by way of warning, it should be added he will

freely dismiss all such portions as refuse to find fellowship with the rest. The boy is one, though his tutors may be a dozen ; and the outcome of their efforts is not the sum of their separate activities, but what the boy has assimilated into a complete and correlated whole.

The aim of correlation, then, is to assist the learner in acquiring a unity of knowledge, and its value lies not in any scheme of correlation on paper, but in the reality of the process in the learner's mind. It is to be feared that much effort has been wasted by teachers in securing the former without the latter.

It is chiefly to Froebel that we owe a term which Self-activity has gained steady acceptance among teachers since his time. Children are not only receptive of knowledge, but incessantly active in expression, and to this aspect of child development Froebel gave the name of "self-activity". It is easy to see now how profoundly the recognition of the child's active nature has influenced educational practice, especially during the present century. Working, as he did, among young children, it was in the kindergarten and the infant school that his teaching was first applied ; for a time, indeed, it was held that it must abruptly cease at the end of that stage. But it has steadily pervaded schools for older children, and its influence is now seen in all stages of the educational process.

Froebel, in fact, produced a revolution of thought, not so much by the detailed occupations he introduced, or by the mystical philosophy which he expounded, but by the release of the child's activity in school. He made the kindergarten a cheerful and happy institution, in striking contrast to the infant schools of his day, where activity was curbed and impulses were checked, and where, to quote Brougham, infants were

to acquire "the habits of prudence, industry and self-control". The general view of that time was that the child's impulses were dangerous forces, to be ruthlessly restrained at all costs. Froebel took the opposite view; activity was natural and therefore right; it could be guided into social and moral behaviour; it could be intellectualised and so made a means of instruction. And in these respects his view has been confirmed and developed by later psychologists.

Since the publication of McDougall's *Social Psychology* and the development of psycho-analysis in the present century, emphasis has shifted from the rational to the instinctive elements of human behaviour, and we understand better now why the policy of repression failed. The early impulses and inborn forces of the child must find an outlet; if they are obstructed in one way they will find a new direction, and if the school curbs them for a time it merely postpones but does not solve the difficulty. It is plain common sense, therefore, that the school should direct the child's impulses to desirable activities, and not leave him to find anti-social outlets.

This is familiar to the Herbartian, in the sense that the child's impulses merit direction and control, but he would relegate this task to the hours of leisure and recreation, and regard it as out of place in a discussion of teaching, which for him was concerned solely with the acquirement of knowledge. But this cannot satisfy the Froebelian, still less the modern educator. The child is supremely an active being, and it must be the teacher's concern not only to provide suitable material for thought, but also for action. Drawing, music, games and manual activity must take their rightful place side by side with those branches of knowledge which, since the Renaissance, have sought

to usurp the whole field. And in this recognition we are only reverting to the older and wiser method of the Greeks.

This brief account of the main emphasis of certain educational developments illustrates clearly enough a weakness that has accompanied educational theory and psychology, and, indeed, all the social sciences in their development. They attempt, as they must, to analyse the living organism, following the method of natural science, but they produce unreal abstractions. Descartes separated mind from body, and his successors laboured to separate the mind into faculties, giving them a separate existence. Successful as analysis has been in the study of matter, it has been inadequate in the study of living organisms ; in economics it produced the "economic man", a dead abstraction ; in psychology it produced a bundle of faculties whose sum bore no resemblance to the living man it had destroyed.

Error of
analytical
methods

The pedagogy of the nineteenth century was strongly influenced by the analytical psychology of the time. Pestalozzi's aim was to "psychologise education" ; he proceeded to separate the activities of analysis and synthesis in intellectual activity, and by a fatal argument he held that analysis was the work of the teacher, and synthesis the work of the child. The teacher separated a complex into its elements, and presented these in order of difficulty to the child, who would build them again into their original complexity. For example, in teaching reading, we can arrange the material in steps of decreasing difficulty from the complex paragraph, through sentences, words and down to single letters. Even the letters can be arranged in three groups : those made up of straight lines, as i and l, those comprising angles, as V and W, and those

which use circular lines, as O and C. Teaching, it was assumed, best proceeded from these simple shapes, and the reign of pothooks and alphabetic reading set in. But according to modern principles this whole analytic structure would be discarded in learning to read.

The illustration might be repeated with other subjects, even down to modern times, for a tradition established itself, and the custom was defended by teachers who claimed that they were "proceeding from the simple to the complex", a canon that has obscured much thinking, and one that often violated a second frequently quoted, that they were "proceeding from the concrete to the abstract". For it is obvious that the simple could also be the highly abstract. The child's purpose is not maintained by abstractions, and so he is driven back on drill and memorising, and his motor activities find no satisfaction. In such methods of teaching, although the support of psychology was claimed for them, child nature was as much ignored as it had been in preceding ages.

The same dire effects of analysis were seen in the division of the matter of instruction into separate "subjects", with a fixed time-table that controlled every moment of the school day. The curriculum was prearranged, logically graded, and static. In many cases it was laid down in detail for as long as a year in advance, and departure from it, which might be required by the differing mental and biological processes involved in child development, was difficult and infrequent.

The supreme folly of this traditional pedagogy in England was expressed in the system of Payment by Results, which laid down a fixed curriculum for the

whole of school life, completely ignoring child nature. The disastrous consequences in the schools of this system did something to arouse the subsequent revolt against its errors, and prepared the way for a more rapid acceptance of the opposite point of view.

The present century has seen enormous activity in psychological speculation, and in the growth of new schools of thought. It may be that the modern teacher, hoping to learn what is the child nature to which he must adapt his curriculum, is doomed to disappointment in the bewildering claims to his attention that psychology offers. It is rather of psychologies than of psychology we should now speak, for the conflicting claims of Behaviourism, Pragmatism, Psycho-Analysis, *Gestalt* Psychology, Individual Psychology and other schools, show how varied is the guidance that is offered.

It is not possible to discuss here these rival claims but only to suggest that an underlying unity is emerging which is of importance to education. These psychologies recognise, for the main part, a greater whole and a synthesis which were absent from earlier theory. The body and the mind are re-integrated in the concept of the body-mind. *Gestalt* emphasises the truth that the whole is greater than, and even different from, the sum of the parts. Behaviourism is concerned with the whole behaviour of an organism, and on the experience that is lived rather than thought. Psycho-analysis postulates a wholeness of the unconscious out of which consciousness has emerged, and in relation to which it functions. The emphasis on constituent atoms, parts, and elements is diminished, and the significance of the whole—life, mind, spirit, organism—in which the parts have their being, is enhanced. The scientific method of analysis is balanced by a philosophical method of intuition.

Modern
emphasis
on syn-
thesis

Education is also showing a response to this same development. It regards the child as an individual, growing by his own activity, living in his own environment, and preparing himself for adult life, not by imitating the adult, but by living as fully as possible in the environment of childhood. Nobody would advocate that an infant, a few months old, should be exercised in walking ; nobody regards it as strange that the tadpole lives in water until it proceeds to live like a frog ; yet there have always been adults who were over anxious to hurry on the child in his development, so that the wisdom and knowledge and restraint of maturity might be an earlier possession. The earliest advocates of infant schools in this country regarded them as a means of instructing the child earlier than had been customary, and so enabling him to go to work when still a child with a minimum of education completed.

Child
nature
versus
equip-
ment for
life

Froebel secured the infant's right to live his life, and the kindergarten was exempted from the requirements of older schools, but for a long time it was held that a different theory must prevail when the infant-school stage was left behind. Slowly, however, his view has invaded schools for the older children. The importance of subject-matter, abstractly conceived as history, science and the rest, has diminished, and the child's whole experience has been made the central reference, branching out from that to a larger environment than the child knows. Subject-matter is one of the means for enlarging the child's experience, but its choice and arrangement must be determined by the teacher's insight into the child's active needs.

The child's development may be conceived as a series of disturbances which a changing environment offers, and his response is to end the disturbance or

adapt himself to it. The process is largely one of readjustment, and the child, like an artist, reshapes old material in new constructions. If the disturbances are too violent, the child is baffled, and the teacher's task is to arrange experiences so graded as to demand effort, yet seem to be within his powers. A task which baffles the child, and tempts the teacher to give too much help, is unwisely chosen.

The full acceptance of the theory that child nature must be raised to the same importance as equipment for the future in determining the curriculum will bring drastic changes into the schools, changes which, in part, have already begun. The child's purposes are more sympathetically regarded; his activity is increasingly employed; the individual differences in the powers, interests and development of children are more readily admitted. But the reconciliation of this view with that of future equipment will not be easy. It is obvious, for example, that the community regards the instrumental subjects, reading, writing and arithmetic, as supremely important, without inquiring about their suitability to the young child. Yet there are sound physiological reasons for postponing them to a later age than has been customary in this country, since they impose undue strain on the eyes. There are sound educational reasons for reconsidering their place in the child's education, for opinion has entirely changed since the day when these subjects were regarded as the indispensable equipment for the child, no matter how early his education was completed. Much unnecessary effort is required from the child when these skills are taught before he feels some need for them, and realises their value. But, of course, when the time comes, there should be no hesitation in requiring the child to undertake the drill involved in their acquisition; life

demands accurate arithmetic and correct spelling and speech, and the school cannot accept any lower standard. There is nothing incompatible in these two requirements: the pupil has more satisfaction in mastering necessary skills than in an indifferent success with achievements that have little value in his eyes. A rigidly fixed curriculum runs the risk of increasing too much the burden of a particular subject, and it is possible that the emphasis on arithmetic, and the time devoted to it by children under eleven years, are not justified by the results.

In secondary education the dominance of examinations may seriously conflict with the motive derived from the pupil's nature. The "matriculation certificate" has won enormous value in the eyes of pupils and parents, with the result that the choice of subjects is often governed neither by the interests and capacities of the pupil, nor by the principle of equipment in its wide sense. It is equipment in the narrowest sense—the obtaining of a particular certificate which was intended for the 5 or 6 per cent of the secondary school pupils who proceed to a university, but actually sought after by thousands of pupils who are preparing for industry and commerce.

The virtue of an examination is that it defines the goal for the pupil and for the teacher; without some test many fear that the child will dally in the more pleasant places and become the proverbial jack-of-all-trades, to whom modern life offers so many easy dissipations. But man is ruled by time and space; they limit him at every turn; they refuse to let his culture, progress, self-development, interests and impulses expand indefinitely; they tie him down to one set of tastes, to one calling, to one home. In short, they compel him to a narrowing circle of pursuits in which

he must find his own satisfaction and through which he can serve his fellows.

The reconciliation of the rival claims of equipment and child nature probably lies in the proper determination of the incidence of the two motives on the child as he develops from infancy to maturity. Child nature is the starting-point, but the mistake of the past was to impose adult conceptions too early. After babyhood and infancy are over, there is still childhood to be lived through before the adolescent begins to appreciate life's more serious demands, and to appreciate the motive of equipment. Suggested
reconciliation

Since over 90 per cent of the nation's children attend elementary schools, and since the leaving age for a large majority was 11 or 12 until the end of the nineteenth century, the motive of equipment was enforced too soon in the life of the child. The minimum age is now 14, and each extension of the leaving age makes possible a postponement of the equipment motive to the time when its importance is most clearly realised by the pupil.

The teacher, therefore, needs a knowledge of the findings of the science of child study, and a brief account of these will be given after the nature and purpose of school pursuits have been discussed.

CHAPTER III

CHOICE AND PURPOSE OF SCHOOL PURSUITS

Domina-
tion of
equip-
ment
motive

THE present-day curriculum comprises a wide variety of branches of knowledge and skill, which have been chosen at different times and for different reasons, though mainly on the plea of equipment. From the exclusively classical programme of the old grammar schools to the curriculum of the modern secondary schools, and from the three R's of the elementary schools of last century to the curriculum of the primary and senior schools of to-day, is a long step, and both developments illustrate the force which the principle of equipment has exerted on the school as well as the conservatism which the school shows in retaining what it has once accepted.

The monopoly of Latin in the grammar schools began when that language was necessary for any boy who sought advancement in Church or State. With the emergence of national languages the retention of Latin was due not only to the plea of equipment but also to the plea that it offered the knowledge of a great past ; later, as the claims of the vernacular threatened more and more the dominance of Latin, the argument was put forward that Latin was the supreme instrument of mental training, a defence which, as has been shown, was built on false assumptions and tended to make of it a lifeless exercise in which form and structure were regarded as infinitely more important than content.

Meanwhile the plea of equipment influenced other schools in different ways. The protestant religions laboured to make every individual able to read the Scriptures in his own tongue, and it came about that, while the grammar schools clung to the classics and resisted change, the mother tongue became the chief concern of the elementary school. The growing importance of trade and commerce added arithmetic to this primary education, and the grammar schools appointed ushers to teach writing and arithmetic to the boys in the lower school, and sometimes to older boys at times that could be spared from what was significantly called the "business" of the school, that is, Latin grammar. At the end of the eighteenth century, when many of the grammar schools had fallen into decay, large and successful private schools were opened where, in addition to the teaching of Latin, an important place was given to French and mathematics, and some geography, history and literature was also taught. Preparation for a commercial career was the overt aim of many of these establishments.

Their success was due to a new demand for education in the rapidly changing structure of English life, and every educational institution felt its influence. Reform was in the air, and in the universities and the public schools a renewed intellectual vigour was apparent. We see this influence well illustrated in Arnold's work at Rugby. Convinced as he was of the superiority of the classics as the instrument of education, he brought to his work a passion for Roman history and a deep interest in contemporary politics, which led him to make Roman and English history a part of the curriculum, and history naturally brought in geography to its aid. Thus the classical course was humanised and broadened, and the old "grammar grind" was modified.

The subsequent history of the growth of the curriculum is intricate, and need not be told in detail. It illustrates the continuous influence of utilitarian aims. Thus the establishment of free trade and the increasing commercial intercourse among nations strengthened the demand for the teaching of modern foreign languages, just as the development of scientific processes in industry and the multiplication of mechanical inventions favoured the teaching of science. Much less influential at the time was the plea of reformers like Pestalozzi and Froebel for more recognition of the child's interests and purposes.

The analysis of the educative process that Herbert Spencer offered in the middle of the nineteenth century is an excellent illustration of the dominance of the doctrine of equipment, and of the continuing influence of the doctrine of formal training. Spencer's question, "What knowledge is of most worth?" was of first-rate importance, and raised a fundamental issue, but his answer was unsatisfactory, for in offering science as alone satisfying his requirements, he had to resort to arguments that were more ingenious than convincing. Indeed, his claim that science was a better mental gymnastic than Latin ought to have made the classicists suspect an argument which could be used to justify conflicting claims.

Argument
of formal
training

The claim that the study of a particular subject develops mental powers that are available for use with other material has been subjected to many experimental investigations during the present century. Thus the power of children to memorise prose has been measured before and after a long practice period in which other material, such as poetry, numbers, and nonsense syllables, has been used. The evidence from such inquiries, carried out in many countries and under varying

conditions, is not uniform, but it is a fair generalisation to say that it shows that any improvement gained in learning one kind of material is either not transferred to different material, or only in a very small degree. A boy may, by regular practice, show an improvement in memorising prose, yet his memorising of numbers remain unaffected. He may acquire neat habits in arithmetic and remain untidy in his dress. He may learn to think systematically about chemistry and remain unsystematic in thinking about politics. To attempt to justify a subject in the curriculum because it bestows powers of mind in other directions seems to find little support in actual practice.

Such results are in conformity with the daily experience of the teacher, as can be verified in any school common room where colleagues discuss the different weaknesses of their pupils. And it is a commonly held view that the specialist in one branch may still be an unreliable leader when he turns his mind to problems with a different content from those of his specialism.

If it were correct to speak of the disciplinary value of a subject in this sense it might be expected that all learners would derive greater advantage from one subject than from others, but there is no evidence that this is the case. However, it is clear that the method of acquiring the subject has a unique influence in determining the disciplinary value. Two boys learn science; to one it is a chain of fascinating problems to which he brings interest, desire, judgment and intelligent reasoning, comprehending ever new relationships of increasing generality; to the other it is a task of memory almost entirely learned for an examination, but evoking little interest and demanding only a small degree of intelligence. The subject-matter is the same,

Disci-
pline of
method

but the disciplinary value is completely different in the two cases.

In any case school activities have been chosen originally for their content, and in the long run the advocates of Latin, or science, or music, or any other subject, fall back on this argument. Knowledge and skill are of importance in life, and mastery of them enables the possessor to live more fully and more efficiently.

Training
value of
each sub-
ject

There is another view of mental discipline which is more fruitful, the view that each subject makes its own unique contribution to mind and personality, and therefore cannot be replaced by another. The modern view that science and the humanities, the study of nature and the study of man, are both indispensable in a balanced education, comes from the realisation that the training they offer differs because of their different content. Any examples may be taken as illustration. The study of chemistry or the study of history obviously offers scope for reasoning, judgment, imagination and memory, which is only a cumbersome way of saying that their acquirement demands intelligent effort, but the nature of their content imposes very different attitudes, concepts and sentiments upon chemist and historian. The chemist deals with objects whose behaviour is uniform under determinable conditions, and he constructs general laws which are of universal validity. His universe is orderly and increasingly measurable, and, indeed, he is in some danger of viewing all experience in the same light. The historian deals with a different world : even when he employs increasingly objective methods of ascertaining the facts his interpretations still require unmeasurable powers of constructive interpretation and are still open to subjective error. His world is not orderly in the

same way as the chemist's, and bias and prejudice are greater snares. The material bestows a different attitude to experience. Yet it would be wrong to say that the training of one kind is superior to the other ; it is different. If the historian can prophesy with less assurance, if his concepts are less definite, he is at any rate concerned with human behaviour and is nearer to the problems of everyday life.

A similar argument is presented by such different subjects as mathematics and poetry. The mathematician constructs a universe by pure reason, and man enters it only by accepting its postulates and its logic. The poet constructs his own universe, and any man may reshape it for himself. The compulsion of the one and the subjective freedom of the other may both be called disciplines, but who shall decide which is superior ? It is sufficient to assert that both have value, and that a balanced education will ignore neither.

Language, literature, history, science and mathematics are man's intellectual constructions from experience, and they are valuable for education because they are valuable for life. But man also constructs materially, and the arts and crafts testify to his practical activity. Indeed, there is a sense in which these activities are basic, for it is through them that thinking is enforced and imagination quickened. Man's first problems were the practical ones of food, shelter and defence, and he had to win them somehow before he could consider how best he could devise improved methods of winning them more effectively and economically. Hence the crafts arose out of universal needs. Their purpose is primarily utilitarian and this value is easily comprehended. To the child they make an obvious appeal, and their value as an educational

Value of
practical
activities

instrument has now been clearly discerned. But they are not merely utilitarian. Through them man also satisfies his quest for beauty, just as upon them he exercises his intelligence. Although some crafts remain mechanical, others allow such variation and degree of skill as to be called fine arts. Again, their discipline is different from but not inferior to that of intellectual pursuits.

It has already been pointed out that in former times the child's environment offered more scope for practical skill than it does to-day. In small rural communities he worked in the garden, on the farm and in the workshop, and through such experiences he both developed his muscular skill and acquired much practical information. He shared in the labours of harvest; he helped to tend cattle; he saw the carpenter, blacksmith, miller and weaver at their work. Modern life does not provide the majority of children with this knowledge and skill. The necessities of life are produced in factories by machinery that grows more and more complex, and the organisation of town and city life, together with the increasing specialisation of industry, makes the individual an onlooker at many activities in which at one time he was an active participator.

It is because of this development that the task of the school is much wider than the learning of book lessons, which at one time was its chief concern. Inadequate as school experience must always be, it must give much more time and thought to practical occupations, and to the development of muscular skills which both body and mind need for proper growth. Many school buildings are ill-equipped for such work, and possess neither gardens nor workshops. Nor have all teachers yet realised the necessity of

giving the child the direct experience with things which is the foundation of his instruction.

The same line of argument also supports another task for the school which was formerly ignored, namely, the care of health. Alarm felt at the threatened physical deterioration of the nation since the beginning of the present century, and the revelation of the enormous amount of preventable disease and ill-health which the annual reports of the Chief Medical Officer of the Board of Education have tabulated since 1908, have combined to turn the modern school into a national health centre, and widened considerably the general conception of the school. The effect of this movement on the school in less than a generation has been considerable. The school medical service, with its periodical inspections of the pupils, the provision of school clinics and the establishment of Special schools have already produced manifestly good results. The curriculum and the teacher have also been affected. There is more time given to physical training, organised games, swimming lessons and other athletic pursuits. The campaign of the National Playing Fields Association and the provision of playing fields by the Local Education Authorities are an outcome of the same impulse. School excursions and holiday camps have been promoted partly for the same reason.

The school must reflect the larger life of the world outside it, and must respond sympathetically to the changes which life undergoes. But life is so varied in its demands that the danger is dissipation, a smattering of many subjects which leave too little time for any of them, and confuse the child by their diversity. Slow as the school may seem to be in responding to changing needs, it has admitted to the curriculum in fairly

Import-
ance of
physical
education

Danger
of over-
elabora-
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analysis

recent years many new pursuits, and the complaint is now frequently heard that their very multiplicity defeats the end they seek.

The difficulty arises partly from our inherent tendency to analyse and classify experience into as many divisions as possible. The subject called English is an obvious example. There are schools which show on their time-tables separate lessons called reading, handwriting, oral composition, written composition, spelling, dictation, grammar, poetry, and perhaps further refinements of analysis. Each division has its own allotted time or times, and all may be separated in content. By such a method the time-table becomes not an administrative convenience, but a mechanical tyrant, dividing the day into as many lesson periods as possible, and the school pursuits into as many small divisions as can be invented.

The child's attitude to experience is different : his analysis proceeds but slowly and adult labels are abstractions to him. It is a long time before he is ready for the separate treatment adopted by the botanist, zoologist, chemist, mathematician, historian, or the rest of the specialists. Yet the school shows a tendency to push these specialisms lower and lower down the school, and so increases the danger of teaching subjects and not children.

A synthetic curriculum

There is little hope of reducing the number of subjects by rejecting any of them : each has its advocates and no proposal for their diminution finds general support. The only hope of solution lies in the adoption of a more synthetic view, attempting to arrange the school pursuits in the smallest possible number of divisions by adopting the widest possible basis of division. Professor Findlay suggests that experience can be conveniently viewed under four aspects, the

physical, artistic, moral and intellectual.¹ Some writers on education produce a far more elaborate classification, but if there is to be any progress towards a synthetic curriculum there is virtue in a simple scheme. There are difficulties in it, as in any other, and language, which is the instrument of all man's activities as well as an object of intellectual activity, seems to require separate treatment. Thus the four types of experience, together with language, become, in Findlay's phrase, the "Five Point Programme" of the school.

If we watch a normal child engaged in some interesting occupation we see how unified is his activity. He is making a toy aeroplane, let us say. He consults diagrams and descriptive articles if they are available ; he cuts out paper and wood and builds his model ; he makes trial flights and tries to discover the reasons for its imperfections ; he gets out his paints and decorates the machine ; if he comes across a descriptive account of an airman he reads it eagerly and projects himself and his aeroplane on the imaginative background which the article suggests. We may analyse the occupation into physical exercise, handwork, art, history and language, but such labels disguise rather than reveal the situation. Our analysis takes us further and further from the essential unity.

But in school we make half a dozen " subjects " out of the activity, and teach them at fixed times. No doubt the organisation of school work demands some regularity and orderliness of procedure, but a multiplication of " subjects " can be avoided. There will come a time when the pupil can see the purpose and significance of history as distinct from geography, and the separation of these subjects will then be possible,

¹ J. J. Findlay, *The Foundations of Education* (Univ. of London Press, 1925-7), vol. i. chap. iv. ; vol. ii. chaps. ii., xii., xiii.

but it is the child's understanding which should determine their separation and not the prearranged syllabus.

A synthetic treatment like the Five-Point Programme attempts to postpone analysis until the pupil makes his own divisions. It offers five aspects of experience, and as the school day occupies five hours or more, it suggests a simple arrangement of the time-table under five branches, viz. physical pursuits, arts and crafts, humanities, sciences and language. The division of the time-table is not simply mechanical—the artistic and craft activities require longer periods than the intellectual, and the physical may best be carried out in a number of short periods rather than in a long one—but these are matters for the teacher's judgment. The time-table keeps the balance; it secures a place for each group in the school day, but the teacher will be free to arrange the detailed pursuits of each group as he discerns his pupils' needs.

Within each group will appear, no doubt, the familiar school "subjects", and the reader may ask whether there is any advantage in such treatment. Before this question is answered, it will be well to discuss briefly the content of the first four branches.

Physical
pursuits

The modern term, the body-mind, is another example of the tendency towards synthesis. The increasing care which is given to physical education in school is not for the sake of the body only, it is a recognition of the Greek conception of the value of gymnastic—that through the body the mind also is influenced.

The increased attention given to this aspect of education since the beginning of the present century has already been noted; it has created the school medical service, provided clinics, school meals and Special schools. It has revolutionised school archi-

ture. It has devised the nursery school for children below school age, in which cleanliness, good physical habits, open air, sunshine, rest and correct food are the simple devices for combating the evil influences of an unsatisfactory material environment. Modern school buildings, with their devices for lighting, ventilation and heating, their spaciousness and airiness, their sanitary provision and means for cleanliness, their provision of playground and playing-fields, stand in happy contrast to the grim, dark, stuffy and crowded buildings of the nineteenth century. Whatever satisfaction may be felt with such improvements, it is tempered by the fact that a large number of school buildings are a disgrace to our civilisation. Dr. Spencer, a former Chief Inspector of the London Education Committee, has recently suggested that four-fifths of our schools need to be rebuilt or reconditioned within the next five, or at most ten years, and puts the cost at £70,000,000.¹ If the taxpayer feels any discomfort at such a proposal he may be comforted by the fact that a long-term loan would secure this great reform at an annual cost of less than £3,000,000.

The argument for such a programme does not rest only on the prospect of improved health ; our diminishing birth-rate will convince the nation before long that children are a more precious national asset than in former days. It has been calculated that the six million children in the elementary schools in 1913 will have fallen to four millions by 1948, and a rapid diminution is already visible. "In the matter of population", wrote Dr. Spencer, "England is faced with a situation which has not been paralleled since the Black Death." We shall not dare to keep children in the devitalising conditions, either at home or in

¹ In *The Times Educational Supplement*, January 26th, 1935.

school, that were common in the past, and the importance of physical education will be manifest.

The subject includes a wide variety of activities, from the spontaneous frolics of the child to the serious gymnastic exercises of the adolescent and the adult. The freedom of the child's play passes on to the imitation of adult activities, to the rhythm of action songs, folk songs, and folk dances, and soon more formal dancing. Although these activities are included under the term physical, they obviously have a wider value, for rhythmic movement is an important factor in the development of body and mind. Associated with music, as in Eurhythmics, it is in the line of educational progress to achieve a wider synthesis.

Team games have been much emphasised in schools during the past two or three generations, and excessive claims have been made for their physical and moral values. Arnold encouraged them at Rugby a century ago because activity seemed less morally dangerous than idleness, a reason far more sound than the claim, based on a mistaken psychology, that they promote courage, fair-play, loyalty, self-denial and a host of abstract virtues that are carried over to other situations. Team games have their place, but it is easy to exaggerate their value.

Findlay has rightly called in question the value of formal exercises which the physical trainer seeks to make an end in themselves. It is increasingly recognised that such exercises achieve their aim only when the pupil gives his full attention to the movement, and voluntary attention to movement as movement is hardly to be expected in children. This view is influencing the subject; the drill-sergeant and the army drill of a generation ago have given way to the instructor who has a knowledge of anatomy and physio-

logy, and of the functional value of particular movements. For pupils under fourteen, varied games, dancing and large movements have a greater value than formal drill and gymnastic exercises, which often become popular in late adolescence. In any case the work must be partially remedial and corrective, adapted to the pupil's powers and needs.

The subject of physical education also includes instruction either under the name of human physiology or of hygiene. It is more important to train children in healthy habits than to give theoretical instruction about them, and stories of teachers who give excellent lessons on ventilation in classrooms which have all their windows tightly closed are not all untrue. A daily routine of opening windows, of keeping the classroom tidy, hands clean and clothes brushed, is far more important than lessons on the desirability of ventilation and cleanliness.

The teaching of human physiology may have little influence on hygienic practice, and to some children such knowledge is distasteful and should not be forced upon them. Its justification might be argued from the modern development of physical training in the case of older pupils, where exercises are related both to anatomical structure and physiological function, and it could provide a *rationale* for the selection and sequence of such exercises, and explain their purpose.

Much more controversial is the question of sex instruction, and there has been vigorous propaganda in recent years directed to its inclusion in the school curriculum. Yet in spite of the fact that harm results from ignorance, the general view is that mere knowledge may do little to counteract the dangers, and that class instruction may produce its own harmful results. Many day-school teachers ignore the problem ; board-

ing-school teachers are much more conscious of it. Not all teachers are capable of handling it, for it requires delicacy and insight as well as knowledge, and treatment should vary widely from case to case. There is much to be said for the view that a study of biology, in which the reproductive functions of plants and animals are studied objectively like other functions, is the most natural way of approach, yet even with this preparation the realisation that human functions are analogous may take different forms. In many cases such realisation comes naturally and smoothly ; in some cases it is disturbing and exciting ; in a few cases, and of these we hear the most, it is critical and dangerous. These last cases are sometimes presented as typical and general, but the evidence for such an assertion is not forthcoming. The danger exists, and every case requires individual understanding, sympathy and patience. But it is not in formal lessons that the right help can be given.

The physical activities of the school are now multiplying the number of specialists, but the class teacher will remain directly concerned with such work in his daily oversight of the scholars. His attitude should be governed by the recognition that physical health and development are powerful aids in his work, as well as basic values in national character.

Artistic
and con-
structive
pursuits

The second large branch of activities may be entitled briefly the Arts. Out of man's struggle with the material world, and his contact with nature, there have emerged the practical skills which satisfy his needs and bring him pleasure in performance. Not all needs are material ; the child is no longer required to labour in order to satisfy his hunger and clothe his body, but through his powers of imitation and variation he experiences something of the satisfaction of the artist

in expressing through various activities his own individuality.

In learning the use of limbs and voice, in walking, running, acting and dancing, in talking and singing, the child is absorbed and delighted in his activities. In the art of language he is experimenting in the use of his supreme weapon, and the school has still much to learn from him in teaching language as a practical art.

The child is also busily engaged in manipulating the things about him, in constructing new shapes and objects as he endeavours to give concrete expression to his ideas, and to satisfy his urge to construct. Sand and clay, chalk and paint and the more easily manipulated objects are his first concern; later he will turn to master wood and metal as his strength and skill develop. The arts which are distinguished sometimes as the fine arts because of the values they have won for themselves, are closely associated with the crafts which serve more obviously useful ends, though the distinction between art and craft is not easy to draw, and for the child does not exist.

Except for language, which the school has too much regarded as a knowledge and too little as a skill, the arts have been neglected in education. The reasons for this are partly historical, but modern life is re-enforcing their claim upon the school. They bring the child into direct contact with situations whose purpose is clear and whose interest is widespread. They are concrete and practical, and therefore satisfy the child's love of activity. They enshrine a great history and can therefore be a means of cultural education. Orator and actor, painter and musician, sculptor and carver, weaver and potter, carpenter and metal worker, husbandman and fisherman—these craftsmen

and artists have built up our civilisation by their labours, and their skill is worth as much to us as the knowledge of the scholar.

The school has exalted book knowledge over craftsmanship, grammar over speech, words over things, and the reformers have continually protested against the neglect of those active interests of the child which offer a more suitable medium for his school pursuits. And the labours of the reformers are beginning to bear fruit. Speech training and dramatic work, music and art, needlework and a variety of crafts are finding their place in the curriculum, although still inadequately in many schools. Their progress is likely to be accelerated as men realise that the machine is withdrawing from the child some of his most useful experiences, and as the necessity for finding more leisure-time occupations grows, but the more important reason for their development in school lies in their own intrinsic value.

The
Humanities

The term humanities includes those pursuits derived from man's social and moral interests. The extension of individual experience to other times, other lands, other peoples, and other ways of life, is a necessary part of education if it is to serve liberal ends. The child's experience is narrow and restricted; he must enlarge it by learning something of men's life in different countries and in other ages, and by appreciating the common bonds which unite, and the obstacles which disunite, the human family. It is a study of human relationships, and therefore of moral and social development.

Adults divide this aspect of life into a number of separate subjects, and the school has selected four of them—religious or moral instruction, history, literature and human geography—as its main concern, leaving

psychology, ethics, anthropology, economics and political science to a later stage. It is true that there are advocates of these more difficult subjects, on the ground that the child's experience is also concerned with their content, but the general reply has been that their study demands powers of abstraction from experience which the schoolboy does not possess. Yet history and geography are also abstractions from experience, and their separate treatment as "subjects" can only be justified when the child has some understanding of their particular nature and purpose, as well as of their relationship to the whole.

When the young child learns about some human adventurer—whether it be a fictitious Robinson Crusoe or a historical Christopher Columbus—he is acquiring ideas which can be classified as geographical, historical, moral, psychological and anthropological, but his experience is a unified whole. If he is interested in Columbus, shares his hopes and fears, trembles when the crew threaten mutiny, exults when land is at last sighted, thrills at the adventurous disembarking in an unknown country, triumphs in the return to Spain and basks in Ferdinand's pleasure, he is learning geography, history, literature and morals without knowing it. But it is hardly an exaggeration to say that school may offer a Scripture lesson on the man who travelled to a far country, a geography lesson on America, a history lesson on the voyage of Columbus and a literature lesson on Tennyson's "Columbus", thus dividing a unified experience by artificial separations which are alien to the child's method. In fact, the school does even worse things: having separated the subjects, it tends to develop each along its own lines; history is taught chronologically and the discovery of America in 1492 may follow a lesson on the battle of Bosworth,

and be followed by a lesson on Poynings' Law, while the geography of America may be studied in a different year and under a different teacher.

These separations of experience are only justified when the child has acquired sufficient experience to make analysis and abstraction intelligent, and there is little justification for them in the junior school, *i.e.* before the age of 11. Until that age the theme should be human achievement, and the concepts of time and space will be slowly acquired as event follows event, and as country after country comes into view. The "picture", to use a distinction of Dr. Arnold's, is all-important, the "plan" can wait.

Schools have often erred badly from this point of view; the Education Department in 1862 established an evil tradition by the system of Payment by Results, when they laid down a detailed syllabus for elementary schools, and examined "subjects" separately. They ordained, for example, that children of eight could earn the grant for geography only by a knowledge of the solar system and of the earth's rotation, entirely ignoring the child's experience and method of approach.

When knowledge is analysed by the teacher the child is presented with abstractions and his efforts are frustrated. The child must assist in the analysis and himself discern at last that "geography" is a study of environment, "history" a study of human will and purpose which can shape environment to its own ends, and "literature" one of the forms in which man has recorded his achievements. If the child made such discoveries for himself his later study of "subjects" would be far more intelligent than is often the case where he is led to accept the labels of the time-table without inquiry.

Religious instruction attempts to give the pupil

some explanation of his inner experience, of the thoughts and yearnings that go beyond space and time to the eternal and invisible. Although the subject bristles with difficulties which have led educators into many compromises, the schools in this country have frequently claimed, and with much justification, that the difficulties were outside and not inside the school. For parties and sects contend, while the schools teach, and the relative degree of freedom allowed to the teacher to construct his own syllabus has helped to preserve the vitality and the suitability of the religious instruction in the elementary school. In the secondary school the subject generally receives more scanty treatment : examination subjects often crowd it out or force it into a subordinate position, so that at the time when the young adolescent begins to ponder the deeper problems of life the school may offer him little help, and leave his religious knowledge at a childish level while pushing forward his secular knowledge at a rapid rate.

This branch arises from man's intellectual grasp of the universe, the knowledge about which he constructs into logical systems. Man uses his intelligence, of course, in the other groups, but their aim is primarily physical, artistic or social, whereas the sciences, whatever may be their practical applications, spring from man's insatiable curiosity and his power of conceptual synthesis. In their beginnings they describe "how" natural phenomena take place ; before long they seek to answer the more difficult "why" of causation, to postulate and test hypotheses and to construct universal laws. The scientist may experience the satisfaction of the artist in creating, but reason is his tool.

It is not easy to reason; rather is it both difficult and fatiguing and therefore the child can sustain a

process of reasoning only for a short time, and under the stimulus of a difficulty which he really wants to surmount. We can find examples of reasoning in a young child, but they invariably spring from his desire to solve a problem which he feels as his own. If the problem is invented by the teacher it may evoke little or no intellectual response from the child.

In this respect the child epitomises the history of the race, and the mentality of primitive man offers many points of comparison with that of the child. His prejudices and beliefs, his indifference to facts which contradict his beliefs, his invocation of magic to explain phenomena—these mark the early attitude to experience and can be seen repeated in the child. Many people progress but little beyond this stage.

One of the important characteristics of modern psychology is its insistence on the irrational nature of man, a reaction from the earlier view that animals are creatures of instinct and that man is distinguished from them by the possession of reason. Both biology and psychology have shown that the distinction is less sharp than was once held, and psychology has shown what a large part instinct and habit play in human life.

Yet such facts should not lead us to the wrong conclusion that reason is of little importance. Difficult as may be its proper use, it still plays an indispensable rôle in human affairs. Man has conquered the natural world by the exercise of reason, and most people believe that the social, political and economic world would be ordered better with its help. A reasonable democracy is dependent on rational beings, and the school must train its pupils in better thinking, or leave them at the mercy of every emotional appeal.

Unfortunately the school is engaged in an almost impossible race against time, for the ability to under-

stand relations and trace cause and effect usually emerges effectively only in the early years of adolescence, and 90 per cent of our pupils leave school long before such interest is much developed. The attempt to hasten the process is unavailing : it only results in the teacher substituting his own thinking for the pupil's, requiring the latter to memorise the result.

The doer and the thinker, the artist and the scholar, pursue their different ways. The school has been more concerned with the scholar and less with the artist, and has separated knowing from doing at too early an age. The child resists ; he is the active explorer, the doer, the artist ; thinking comes to him in and through the obstacles that are in the way of his practical purposes. Science and mathematics should emerge from the daily concrete experiences of life, and should provide the opportunity of observing the wonders that the material world offers in such variety. The sciences, with their divisions and abstractions, are on a higher intellectual plane : to repeat a distinction used above, science is the "picture", and sciences are the "plan". The picture must first be experienced and when the plan begins to take shape the school has to use what little time remains to make the sciences the means of intelligent thinking.

There is an intellectual element in all experience, and this has been abstracted and organised in the separate sciences. We speak of the science of history, of ethics, of philosophy, but we realise how remote these are from the schoolboy's experience, though we often attempt to teach him abstractions in other fields before he is ready for them. The science of language is an example. The grammarian and the philologist have classified the data of language and constructed an organised body of knowledge. Yet the science is

remote from the child, just as it may be from the poet, the essayist, the dramatist. Their aim is creative and practical. The grammarian has a place, but far from helping the child in his efforts to gain mastery of expression, he may hinder him. It is only after the child has experienced some satisfaction in speaking and writing that grammar can have any real meaning and value for him, and it is fatally easy for the school to divorce grammar from the art of language. It is here that the conflict arises as to methods of teaching language ; both in the infant school where reading is begun, and in the upper school where French and Latin are taught, the grammarian and the phonetician have had too much influence. There are devices for teaching the young child how to read his mother tongue that are so elaborate that they confuse his purpose, so complex have we made the process by a confusion of aims.

A syn-
thetic
time-
table

The subjects of the curriculum can be placed within the five branches (including language as a separate branch), and the question as to the advantage of such treatment may now be considered. The answer is, that so long as the physical, artistic, social and intellectual nature of the child is finding an outlet, there need be no attempt to crowd into the time-table every subdivision of these four branches. The young artist may, at different times, practise drawing, painting, modelling, weaving, bookbinding, carpentry and so on, but it is clear that the school day is not long enough for them all in any particular year of school life. But it is not so clearly seen that the lessons given to oral composition, written composition, reading, spelling, grammar, history, geography, map-drawing, dramatic work, recitation and the like, constitute a similar attempt to do the impossible and often end in patch-

work. If the school secures for the humanities an hour or so a day, the teacher should be allowed to allocate the time in the most profitable way, as the needs and interests of the scholars develop. The separation of the humanities into geography, history and literature would come when the pupils were ready for them and saw some value in their separate treatment. To the end of the junior school period, at least, the time-table could be simplified, and teachers would then have more freedom to cater for the spontaneous interests of their pupils.

The present analytical time-table, while it may act as a check on the unintelligent teacher and prevent the neglect of necessary routine, may also act as a fetter on the intelligent teacher and is often inimical to the child's spontaneity. In the later years of school life, with the use of specialist teachers and the requirements of examinations, the analytical time-table will be increasingly necessary.

The curriculum must be related to the child, and it is necessary for the teacher to study the general development of his pupils as they grow from infancy to adolescence. Such development lies behind our different types of schools and the work they do. Hence the development of the child and the evolution of the school must be discussed in the following two chapters.

CHAPTER IV

GROWTH AND DEVELOPMENT OF THE PUPIL

Different
ideas of
child
nature

THE recognition of the factor of child nature as a datum in the educational process is comparatively recent. Long after Rousseau had pleaded the importance of child study, and Pestalozzi had striven to adapt school procedure to the child, teachers continued in the old tradition of ignoring the fact that children are different from adults, and go through a process of development which profoundly changes their attitude to experience. Joseph Lancaster was contemporary with Pestalozzi and one of the best-known teachers of his time, yet he could write : " The mental powers of boys are similar to those of men, but in embryo. . . . The same stimulus that animates men to action will have a proportionate effect on juvenile minds."

This view, sometimes called the " little man " theory, is easy to accept and difficult to correct. We all tend to project ourselves into other people, to impute to them the same motives that prompt us to action, to commend or blame their behaviour in terms of our own acquired values. In a well-known essay, entitled *On a Certain Blindness in Human Beings*, William James describes his own failures to appreciate another's point of view, and this inherent weakness is patent enough to all who reflect upon it. It is a blindness which has been dominant in schools from the beginning, and is still to be found in them. The

relationship of the adult teacher to the young child is such that, unless there is a growth of sympathetic understanding with the child's point of view, the teacher is too much disposed to require the child to conform to the pattern he offers. It may be an excellent pattern—for himself; to impose it on others by authority or by suggestion is an oppression; it renders the child far too dependent on the teacher.

On this point, during recent times, there has been a remarkable change both in the theory and the practice of the school. A generation or so ago it was a common practice in the school to inflict corporal punishment on children, day after day, because they could not get correct answers in arithmetic or avoid a certain number of spelling errors in dictation. Children were punished for talking to their neighbours, for helping them with a difficult sum, for singing out of tune, for arriving late at school, no matter what the cause; in a word, they were punished for being children, and for being too unlike the teachers. But now it is a commonplace view that, inasmuch as children differ so much from one another and from adults, the "faults" of an earlier day are natural enough. If we put 50 or 60 children of different intelligence together in one class we shall find some who spell badly and some who count incorrectly, some who are tone deaf and some who will talk to their neighbours no matter what penalties are prescribed. The teacher who responds to the situation with a system of corporal punishment, or in these days only with expressions of irritability and condemnation, is a bad teacher, no matter what his skill in technique may be; for he has failed in his first task—that of attempting to understand the child.

It is true, of course, that there has always been some recognition of the principle of child-development.

When Mr. Robert Lowe inaugurated, "payment by results" in 1862, he invented the six "standards" of the elementary school, and established six increasingly difficult levels of examination. But the difference was a quantitative rather than a qualitative one : the child in standard six was to read a longer book than the child in standard one, and the curriculum was to be progressively expanded through the six standards, by the simple process of prescribing a larger amount in the later years. Individual differences between children, and their changing attitude to experience, were completely ignored.

Stages of
growth

Modern psychology has revealed something of the nature and the extent of individual differences ; it has done much to change the attitude of the teacher to the child, and to reveal the child to the teacher. It is not the purpose of this book to attempt to summarise the results, and the student must be referred to other sources for such information. But it is important to try to build up a general picture of the child's development, and to discuss how far the school succeeds in adapting itself to the chief stages of growth.

Certain terms—infancy, childhood, adolescence, adulthood—show that stages of growth are recognised, although there is not always agreement as to when one stage ends and the next begins. Growth is a continuous process without any sharply defined transitions, and while the difference between childhood and adolescence is clear enough, the determination of the point at which the school should recognise the difference by transferring the pupil from a junior to a senior division is not easy. For the problem is not merely psychological or physiological ; it is also social, and it is influenced by the traditions derived from past experience.

Thus, in English education we have two different systems of differentiation of pupils, both of which are connected with the change to adolescence. Stanley Hall, whose work *Adolescence* still has authority, has shown that the change in either sex may occur during a period extending over about two years, and that girls experience the change generally about a year earlier than boys. He consequently states the age for boys as 14 ± 1 , and for girls as 13 ± 1 , i.e. the period for both sexes occurs between the ages of 12 and 15. Hence it is that the school might prefer to transfer its pupils before the beginning of the change or towards its end, and both methods, in fact, we actually find. The secondary schools of this country receive the vast majority of their pupils during their twelfth year, whereas the Public Schools receive theirs in their fourteenth and fifteenth years. The difference between the two groups is, of course, very great; pupils in the first group are still boys and girls, whereas those in the second group are already developing adult characteristics. Yet the total length of school life and not the fact of adolescence has been the determinant in fixing these two different ages of transfer. The Public Schools retain a majority of their pupils until the age of 18 or more, whereas the Secondary Schools lose a majority at the age of 16, and until recent times lost a large number before that age. It was to make a course of four or five years possible that the age of entrance was fixed.

If the physical, mental and social growth of the pupil were summarised from year to year the knowledge would still be inadequate to determine the ideal programme for the school, for, as we have seen, both future needs and established traditions are relevant factors to take into account. Nevertheless, scientific

child study has an important task to perform in revealing the child to the teacher, and educational practice will derive increasing benefit from it.

Babyhood The broad lines of differentiation in the development of the pupil give us the periods of babyhood, infancy, childhood and adolescence as our main divisions, and the schools accept, in increasing measure, the changes which these divisions imply. Babyhood, which ends when the child acquires the arts of talking and walking, and so begins to control his environment more actively, lies outside the teacher's business.

**Infancy,
2-7 years** The period of infancy may be regarded as extending between the ages of 2 and 7, and from the time of Froebel the child's delight in active play has been recognised as one of his most pronounced characteristics, and one of the chief means of his training. It is a period of great physical activity, when arms and hands and legs and feet are incessantly in movement; a period when "sitting still" is only achieved by harsh repression and punishment, for the child must learn to co-ordinate the sense impressions that flow through his sense organs; touch must be related to sight and sound. So, too, he must master an increasingly complex range of movements, acquiring finer and finer adjustments as he proceeds. The order of such acquirement is clear; he proceeds from fundamental to accessory, and he learns to control the larger limbs before he attempts the more exact skills which depend upon slight movements of wrist, hand and fingers, accompanied by minute eye adjustments.

One aspect of this bubbling activity is seen in the desire of the child to talk and to ask questions, for he must master an increasing range of expression through words in order to establish more complete relationship with his fellows. Much will depend upon his social

environment as to whether his language remains only a crude and unpolished instrument or is a constant stimulus for observing and expressing finer discriminations. His questions are rather the expression of mental activity, of thinking aloud, than of a curiosity for information, for the child can only assimilate facts for which his previous experience has prepared him, and he will often disconcert the adult by paying scant attention to the answer that is given.

A characteristic feature of infancy is the creation of a world of "make-believe", which enables the child to give his mental images a freedom greater than is usual in succeeding years. Sometimes, indeed, fancy runs riot in him, and he peoples his world with fairies and giants, unseen playmates and companions, who, for a time, seem to have a greater degree of reality than the people about him. He lives in a world where anything may happen, where kind fairies may suddenly appear to repair a disaster caused, perhaps, by an evil ogre, and where the strangest transformations of reality may occur in the most desirable way. One aspect of this transformation has received much attention, namely, the so-called "children's lies", which are a result of the mingling of fact and fancy. The child may show no hesitation or malice in weaving into the narration of an event the most incongruous and impossible details, and many parents have suffered distress by the repeated affirmations of a child that he is speaking the "truth" in such narrations. How seriously this phenomenon was regarded in Victorian days may be realised from Mrs. Gaskell's *Ruth*, where a child brought up in a Puritan family suddenly becomes "untruthful", and the most rigorous methods are devised to cure her of the "vice". The modern view is different; the phenomenon is recognised as temporary,

and as a manifestation of the child's struggle to discriminate between the worlds of reality and imagination. The delight which the child experiences in making the objects about him serve the purpose of his imaginative play is attractively described in R. L. Stevenson's *Children's Play*, an essay which has had many imitators since his time. In it, the most mundane of objects, the morning porridge and the coal-scuttle, serve to stimulate the fancy, as the child weaves them into his own personal creations.

This activity of creative fancy is recognised by all observers, but there is a divergence of view as to the use of it in education. Some, probably a large majority, would give it full play; Madame Montessori regards it with some suspicion, and condemns the use of fairy stories as a dangerous indulgence. For the child can be amazingly serious in his occupations with her instructive apparatus; why, then, should he be distracted by such absurdities as Jack and the Beanstalk and such monstrosities as Bluebeard?

This is not the first time that the fairy story has been attacked; the moral writers of the Evangelical Revival at the end of the eighteenth century tried to replace it by stories of everyday events and by books of miscellaneous information. They earned thereby the wrath of Charles Lamb, who asked Coleridge, "Is there no way of averting this sore evil? Think what you would have been now if, instead of being fed with tales and old wives' fables in childhood, you had been crammed with geography and natural history." Lamb's delight in old wives' fables will continue to find an echo in modern times, and the English child will be encouraged to indulge his fancy.

The realisation that the child's play is of educational value probably arose from the sentimental view that

the child might be indulged a little longer; work of a serious kind would face him soon enough. The theories of play lent support to this view. The so-called physiological theory that play was an expression of superfluous energy, a "letting-off of steam", implied that it was an outlet after a period of creative energy and therefore inferior to it, for it is obviously more important that an engine can get up steam than merely let it off. In the same way the biological theories about play implied that it was an inferior kind of activity: Karl Groos regarded it as a preparation for life and for serious work; Stanley Hall regarded it as a necessary expression of old racial memories.

The difficulty about defining play is its comprehensiveness; we include in the term every activity and occupation that we take up spontaneously, without constraint from others. It is a form of experimenting, a means of enlarging experience, and while it has biological utility, in that it leads to the acquisition of skills which will find application in later years, and while its forms may be stirred by racial memory, so that we find large similarities between the games of children in all lands, its most striking characteristic is that it enables the child to enlarge his kingdom and to enjoy a superiority that reality would withhold. His inferior strength and skill are obvious to him; the acquirement of adult competence seems too long in coming, but in play the victory can be quickly assured, and he will make strenuous efforts in his play to achieve a semblance of power. He will imitate the doings of his elders over the whole range of their activities—even if it means, as with the Brontë children, playing at funerals; no sooner does he go to school than he will play at keeping school, with himself as teacher, issuing sharp commands. The dramatic enjoyment in all this

is obvious, and much socialising work goes on in the clash and co-operation of the members of each group. So, too, with fairy stories ; they offer a world that is far more pliable to human wish than the objective world about us, and therefore they satisfy the child's desire to control. With a magic carpet he controls space ; with a fairy's wand he controls time and sense, and can construct in imagination the world he wills. Tell him the story of Bluebeard, and he will assume the rôle of the bloodthirsty husband with obvious delight.

Are we to conclude from this that the child is being encouraged to mistake pretence for reality, and to beget a habit of dreaming that will end in the desire to escape from the practical demands of life ? It is hard to believe so. The child is not allowed to forget for long the real world with its meal-times and bedtime, and we have seen how easily he makes use of the objects about him ; the coal-scuttle which he talks of as an enchanted castle is still a coal-scuttle from which the elders replenish the fire. The desire to acquire adult powers is strong within him and Mr. Bertrand Russell's statement that as the child's " inferiority to other people is normal, not pathological, so its compensation in fantasy is also normal and not pathological " seems to be the correct view. If the child plays at being Bluebeard one moment, he may declare himself to be the Sleeping Beauty the next.

Some kinds of play are serious enough, and the children in the Montessori school who choose the " long stair " for their game may very properly desire to " get it right ". A teacher who suggested to the child that it was a train to be pushed about the floor, would frustrate the child's real desire to build the stair. Dr. Montessori is supremely right in condemning such interference on a mistaken plea of stimulating

imagination ; there have been kindergartens where the desires of children were constantly thwarted by the teacher's insistence on play in fixed ways and at fixed times. Play that is educative is spontaneous and must appeal to the child as his own activity.

Yet prompted as is the child by his inner feelings and by an intensely individual emotional life that grows gradually more stable, his development calls for a suitable and changing environment which will demand his adaptation to an objective world. A congested urban environment is not his natural home, and when this means a single room in a city slum the deprivation he suffers is enormous. Both for health and for mental growth he needs open air and sunshine, trees, plants and animals to excite his curiosity, paddling pools and sandpits to exercise his activity. Eye, ear and touch are his natural instruments of learning, so the provision of suitable objects and materials which can be handled and pulled to pieces is important. His touch is much more sensitive than that of the adult ; his ear is much more responsive to rhythm than to melody or harmony ; his eye is hypermetropic and unfitted for small print and close work. Until about the age of 8 he will acquire but little control over the finer muscles.

There is more concern to-day for the health of the child than previously, and the incidence of infectious diseases and fevers is exceedingly heavy in this period. Not only are they dangerous to children, but their after effects, when insufficient care is taken, are also serious. The importance of correct food, especially of fresh food, and in sufficient quantity, is better understood than formerly, and the alternation of exercise and rest is important. A child who sleeps less than from ten to twelve hours at night requires sleep during the day to make up the deficiency.

Fresh air, sunshine, proper food, exercise, rest, cleanliness and a stimulating environment—these are the prime needs of the child, and they are immensely more important than schooling, or the skill to read and write. It is because these simple necessities are not always available that the doors of the school are opened to children below the age of seven ; and it should be clear from this sketch of infancy what mistakes were made by educators in the past.

Child-
hood, 7+
to 11 +

Psychological development between the ages of 7 and 11 has attracted less study than earlier and later periods. A crude theory, which Professor Burt calls the stratification theory, still holds sway in some quarters. This supposes that mental growth proceeds by well-defined steps in which sense perception, muscular activity, memory and reasoning follow one another in chronological order. Modern psychological theory gives no support to this view, regarding the mind as a developing and unbroken continuity. The child from his earliest years receives sense impressions, makes motor adaptations, records the results of experience, and thinks when confronted with practical problems.

The investigation of intelligence as measured by standardised tests shows that children differ widely in the possession of this power. At the age of 5 their mental age may range from 3 to 7, and at the age of 10 this range has doubled and probably continues to widen till the end of puberty. The emergence of special abilities is not usually pronounced before the age of 11, and intellectual activities are fairly closely correlated with one another, though these intercorrelations tend to diminish as the child approaches adolescence.

The sensory capacities of children, which mature at a fairly early age, acquire an increasing power of fine

discrimination. The eye of the infant is usually long-sighted, and is not ready for near work, but myopia or short-sightedness begins to appear in the junior school, and may be aggravated by bad lighting conditions or over-strain. Many children also suffer from some degree of deafness due to earlier illness.

One of the marked features of this stage is the improvement in dexterity. The control of the larger muscles, which is so much the concern of the infant, is followed by the acquisition of power over the finer muscles ; the child must learn to adjust eyes, tongue and fingers in ever-increasing delicacy of movement, and exercises must be graded in such a way as to ensure greater and greater mastery without strain.

The transition from infancy to childhood is marked by the growing recognition of a disparity between reality and fantasy, and by a decreasing satisfaction in mere activity. For some children, no doubt, Wordsworth's lines,

Shades of the prison house begin to close
Upon the growing boy,

are true, for as reality becomes more dominant a mean environment may be a veritable prison house. The congested city street and the sordid slum, cut off from clear sky and distant view, from mountain and lake, from tree and flower, is a poor bit of reality after the world of make-believe.

Fortunately our boys and girls can still dream their dreams. Their interest in mere fairy tales wanes, and Santa Claus turns out to be a piece of adult make-belief which children agree to accept, but they are ripe for the tales of the heroes of all ages and all countries ; they can identify themselves with the men of action : explorers, soldiers, sailors, pirates, hunters, engineers

and, now, air pilots and submarine commanders. They are attracted by achievement, mastery, the victory over obstacles and new discoveries. While war and fighting make a strong appeal, the victories of peace can attract no less successfully.

The growing realisation of purposes and ends brings with it an increasing stability and continuity of effort, and the boy will readily pursue activities when their use and value are clear to him. He resists abstract studies and reveals his attitude to them by the frequently asked question : What is the use of them ? If the use can be convincingly explained to him he will cheerfully accept the drudgery involved in learning, but if he remains unconvinced his attention will wander and his effort will be held only by external discipline. If he wants to make an airship, then he will bring to his science lessons a new interest ; if he is a scout and keen on his badges, then some of his school lessons will acquire a new value for him.

His interests are practical and his values are pragmatic. The way to his mind is through practical activities, and through these he acquires an increasing mastery over material of different kinds, gaining concepts of volume, size, number and time which grow naturally from the manipulation of concrete objects. The great error of the school through the ages has been the substitution of words for sense perceptions ; words seemed to offer a quicker road, and in days when children left school at the age of 10 or 11, there was no time to be lost. So the teachers did the thinking and the scholars memorised their results, repeating words, definitions, summaries, tables, dates, lists of names, on the theory that some permanent result, easy of recall, must be carried off from school.

In stressing the importance of activity it must be

remembered that it is in the earlier part of childhood that the instrumental skills of reading, writing and counting are acquired. Since the pupils are now of an age to realise the value of these subjects there is no objection, in the majority of cases, to the use of drill methods so familiar in schools. The important point is that drill shall follow the realisation of value and not precede it; that accuracy shall be regarded as a goal to be achieved gradually, not rigidly insisted on at the outset. If reading and arithmetic were not taught until the child saw their value their acquisition would be made far more easy, and the drill periods required to give facility in use would give more fruitful results.

What has been said of the child's interest in achievement is happily illustrated in his games. These are chiefly competitive and individualistic; the winner must beat all his rivals in running, jumping, skipping, marbles, and the rest. The group is the field of these competitive efforts, and therefore the scene of continuous struggle and discord. Leadership is constantly challenged, and leaders rise and fall with astonishing speed. The victory is most often to the quick and to the strong, yet these are never permanently safe, for all-round excellence is given to few; if a rival cannot depose the leaders he prefers to disintegrate the group and carry off such malcontents as he can. Among boys these differences lead to fights, stimulated by the taunts of each rival's followers; girls "fall out" and rival factions may refuse to speak to one another for weeks or months.

In all this noisy activity we can see the child measuring himself against his fellows, trying his strength, striving to achieve a mastery in something. It is true that the germ of co-operative effort appears before the end of the period; autumn nights may drive

a number together in a football team with a proper name, and an effort is made to collect funds for the purchase of their gear, but dissension will appear before long, and the team will have disappeared even from memory before the turn of the year. A teacher who lives near a place where boys and girls congregate for evening play can observe a drama whose interest and action never cease.

Ethically, no doubt, the age seems unsatisfactory to the adult. The child is egoistic, self-assertive, impatient, rebellious, moved by momentary gains and not by distant views, looking for an opportunity to seize his individual chances, believing that everybody must be for himself and feeling little sympathy for the hindmost. We need not despair; he is learning to know himself and his fellows; he is making experiments with solid facts. The best help the school can give him is in making possible better experiments, so that the over-assertive may learn their limitations more clearly and the hesitant test their powers, and so that weak purposes may be maintained over longer periods.

The incidence of infectious diseases is less heavy in this period, but continuous oversight is necessary since the after-effects of earlier illnesses may appear and work irreparable damage. It is not a period of rapid growth; it is rather a "filling out" period after the "springing up" period between 5 and 7, and before the rapid growth which marks the onset of puberty about the twelfth or thirteenth year. But the energy and activity which are such marked features of childhood suggest that rest and food must be adequate in order to protect the body from the strain to which it is subjected. This is specially important after severe illness, which has a debilitating effect on the skeletal system, and probably on brain structure.

Much less is known of the development of the brain than of the body. By the age of 7 it is nearly full-grown, and only a slight enlargement occurs afterwards. Yet the period is of great importance for brain structure: of the three layers of cells on the cortex of the brain the outer layer, the last to appear, grows most noticeably during the early years, increasing in thickness in the normal child between birth and maturity by more than 50 per cent. In a sub-normal brain it is chiefly this outer layer that fails to develop, and in any disease which causes brain decay it is this layer that first undergoes dissolution. This differentiation of the cerebral cortex develops earliest in the motor area, then in the visual area, and lastly in the frontal area, the portion of the brain associated closely with the higher mental functions. Hence this frontal area develops most in the period of primary education. The wide variations of mental development in apparently normal children seem to be intimately associated with this cortical development, but the problem is still beset with obscurity.

The third period, adolescence, which lasts from the early 'teens to maturity, is the one most clearly recognised as possessing its own definite characteristics. It is the threshold of life, regarded by all races as the time for initiating the young into the adult knowledge which they will soon require for the responsibility they must bear.

In former times it was a period of work, of apprenticeship, of professional preparation for a vocation; in modern times it is the period of secondary education in one or other of the increasing number of differentiated schools. But as the leaving age for nearly 90 per cent of our pupils is 14, the stage of adolescence has only just begun when they leave school, and the

Adoles-
cence,
11+ to 18

need of some educational guidance in the period 14 to 18, which was recognised in the Education Act of 1918, was based on the fact that the adolescent still needs help and advice before he reaches manhood. Yet the famous Clause 10 of the Act of 1918, requiring those pupils who leave school at 14 to attend day continuation classes for 320 hours a year until they reach the age of 18, has come to nought except in one borough¹; adolescence, in the case of an overwhelming majority of our young people, remains outside compulsory educational provision.

In this period the new orientation is towards the future, to occupation or vocation, to adult freedom and privilege. There are rapid physical developments, new functions emerge, and this bodily change is accompanied by new emotional and mental stirrings which may make either art, literature, science, mathematics or practical skill a conscious interest. Biography has clearly revealed the disturbing nature of this rebirth, and the "storm and stress" which may set the individual life in a new direction; a period which drives a Shelley into rebellious defiance of orthodoxy, and a Nansen into the solitude of the forest, which prompts a bohemian Stevenson to defy the conventions of dress, and draws a Scott into the company of any soldier who can tell of battlefields abroad, or of any cottager who can repeat the ballads or stories of the past. Yet we must not assume that this is the case with all; some are puzzled and confused by the discernment of problems which baffle them but of which they dare not speak; some are acquiescent and

¹ Rugby, which has courageously persevered with an experiment made more difficult by the fact that it stands alone. Clause 10 of the Act was, of course, modified during the discussion of the Bill, and for seven years was to be operated on a more modest scale.

passive in their attitude, and experience little enough disturbance in re-adaptation. But for all in some measure they are formative years, and the standards of thought and conduct that are fashioned will generally be those that govern the later years.

The problem of discipline that emerges is different from that in the preceding period. The youth feels himself already a man, and readily responds to methods which respect his seniority and responsibility. Moreover, he is moved by corporate ideals: the honour of his school, his group, he regards now as in his keeping, and though schoolboy honour may be turned to base uses, it can also exert on the individual a highly moral force, and lead him without effort into socially useful activities. Public opinion sways him strongly, and there are few who are strong enough to defy it; if public opinion in the school is healthy it is an excellent aid to individuals.

This principle has been made much use of during a century and more, first in the Public Schools by a system of prefects, and now in nearly every school in the land, so that the pupils themselves play an important part in creating public opinion, and also in using it against defaulters. Thus it is that the disciplinary problem is largely solved in the schools by providing group activities that are largely self-governing, finding expression in athletic teams, school societies and hobby groups, as well as in the prefect system. More advanced is the effort to extend this self-governing principle to activities inside the classroom, as described in such books as Caldwell Cook's *Play-Way* and J. H. Simpson's *Adventure in Education*, experiments which were foreshadowed a century ago by Rowland and M. D. Hill in a private school near Birmingham. The flogging and bullying of former

days have disappeared, partly because the principle of the "team spirit" in school has become a reality.

At the same time there is still considerable criticism that it is the athletic groups which dominate the school society, and that the Public School tradition has given too little encouragement to the other emerging interests of adolescence. For the awakening may be to intellectual pursuits, or to an emotional sensitivity and the awareness of beauty in colour and sound; but neither the "swot" nor the "aesthete" gets much sympathy from his athletic companions. The point of the criticism is probably diminishing in the case of intellectual interests, and school societies which foster them have a more important place in the life of the school. But the emotional awakening is still too little recognised, and the adolescent's passion for romantic poetry, art, music or religion, is still too much suspect. In Alec Waugh's *Loom of Youth* a schoolboy made the charge that beauty had no place in his education; another schoolboy who set out to answer him was forced to admit that this charge, at least, was true. And all psychologists have stressed the vigour and the importance of the emotional release in adolescence.

It is this welling-up of the emotions that produces the two chief interests of later adolescence—sex and religion. In the new life that flows so vigorously, the object of emotion turns from self to others, to ideals of conduct and action, and sex looms up as a new and tremendous discovery. Its outward manifestations are crude enough; we can see the youth's pride in person and dress, the desire to outshine his companions in some activity, and the stumbling and self-conscious awkwardness of speech and manners in the presence of the other sex. The emotional current may be in strong flood and its importance is due to the simple

fact that its débâsement may mean a lifelong curse, its exaltation the greatest ethical force in the universe. Many writers have noted the later reaction that may follow this first fine rapture—there comes a time when boys and girls seem to withdraw from each other, and seek the sole companionship of their own sex.

So, too, the claims of religion, the meaning of life and destiny, the conflict of present with future, of actual with possible, of flesh with spirit, conflicts felt, perhaps, for the first time, turn the adolescent to religious faith and practice in his quest for an answer. Some American psychologists have been fond of showing how large a proportion of conversions occur in the few years of adolescence, implying sometimes that the duty of educators is to capture youth at this most favourable time, on the plea that there is little hope if the chance be lost. The Churches generally take the same view, and from their standpoint they are right. But the educator stands in a different relationship. He is pledged to allow the boy to live, as far as may be, his own life : he notes the new attitude to religion, just as he notes the sceptical reaction that sometimes follows. His duty is to understand both phases, and to offer help if he can, in both, not to impose his own religion. For we see more clearly than did our forefathers that the imposition of a system of beliefs may do damage in more ways than one. The scepticism through which so many adolescents pass need not be feared or regretted if it is honestly faced. The danger lies in two directions : the youth may, in alarm, close his mind against the new ideas that present themselves, and refuse to face the realities of the situation, thus creating a hidden fear that will continue to worry him ; or, by throwing overboard the whole system of his beliefs, he may imagine that the moral values that were

associated therewith are no longer binding on him and he is left without an anchor. Both ways are disastrous, whether they produce the intellectual coward or the disillusioned libertine. The religious impulse must be integrated with the whole of life, and in this work the teacher is directly concerned.

Necessity
for study
of indi-
vidual
differ-
ences

This is but a brief sketch of the three main periods of development with which the teacher is concerned. Its details are to be found in various books on psychology, in biographies, and even in fiction. A teacher can also relate it to the memories of his own development. But above all, the teacher must be an observer of his own pupils, noting their reactions to his stimuli in the classroom, recording their behaviour, and studying their interests, attitudes and preferences, when they are most free, that is, in their periods of recreation. It is a difficult but valuable experience to study the behaviour of others objectively, to get rid of preconceived notions as to how pupils should behave, and to observe faithfully how they do behave. For the range of human behaviour is enormously wide, and individual variations will never cease to cause surprise.

The teacher has much to learn from the doctor in his professional methods, although the latter has the advantage in that he sees his patients one at a time and can observe them leisurely, whereas the teacher always has a group, sometimes a very large group, and is hampered by a tradition of mass treatment. The doctor regards his patient as an individual problem for observation, diagnosis and treatment; the teacher, at any rate in former days, was too much inclined to condemn any variation from an expected average and to regard it as an offence. This attitude is changing, and must change still more. Modern psychology has shown what large differences exist in intellectual, emo-

tional and volitional endowment, and how these differences affect acquired powers and attitudes. The teacher must grow more accurate in observation, more skilful in diagnosis, more inventive in treatment if teaching is to become a fine art, and not a matter of rule-of-thumb as it was when it was the resort of those who had failed in every other calling.

The picture of the development of the pupil is also suggestive in another way: it raises the question whether the organisation of schools takes sufficiently into account the nature of the pupils. We proceed to discuss this theme in the next chapter.

CHAPTER V

DIFFERENTIATION OF SCHOOLS

Voluntary
effort and
class dis-
tinction

THE schools of this country have been determined chiefly by social and political considerations, rather than by the needs of the pupils in their growth from infancy to maturity. It is true that, in a rough-and-ready way, the school has been influenced by the age and capacity of the pupils for whom it was designed, but its most characteristic features have resulted from other considerations.

Our national system of education has been built up during the last century ; the State offered no financial assistance and no guidance until 1833, when an annual grant of £20,000 was made for the erection of schools to assist in educating the children of the poor. Before that time, schools were built by private benefactors, by religious societies, and by individuals who ran them for private profit ; the only source of public aid came from small grants made by Corporations for the support of a particular school. These three types of founder still survive : many old endowed grammar schools derive part of their income from the munificence of ancient founders ; many elementary schools date from the early part of the nineteenth century when the churches strove to give a brief training to the children of the poor whose neglect constituted a public scandal ; some types of private schools are still popular and are almost wholly separate from the national system. The growth of State control and State aid since 1833 is a large part of the story of educational

development in this country through a hundred years, and the fact that the State came in hesitatingly, and at times unwillingly, lies behind the series of compromises and the divided control that makes the present-day system seem so complex.

On the whole, it is a fair generalisation to say that the ultimate effect of State provision is to include every class of citizen, irrespective of creed, political party or social position, whereas the efforts of individuals and associations were directed in the main to the needs of certain classes. Without raising here the vexed question of the intended scope of the old educational endowments, for there is evidence enough that a poor boy of ability was not excluded from the ancient grammar schools, it is clear that these schools became more and more confined to the children of the well-to-do. As the population of the country increased the provision of such schools became more and more inadequate, and their class restriction more pronounced. The same tendency is seen in the private schools, except that here they varied from the very expensive to the very cheap: Miss F. P. Cobbe, in her *Autobiography*, describes a fashionable girls' school at Brighton in the middle of the nineteenth century where the fees were £500 a year, and in the same town there would be dames' schools where infants were "minded" at a charge of two pence a week, while in other private schools a rising standard of gentility and selectivity was induced by an increasing scale of fees varying from sixpence to a shilling and more per week. The educational effort of the churches was largely confined to the poor; in the eighteenth century the charity schools were designed to train boys for apprenticeship to the humbler trades and girls for domestic service; in the early nineteenth century the

monitorial schools attempted the far bigger problem of teaching religion and the three R's to the thousands of children who thronged the slums and mean streets of the rapidly growing industrial towns and large cities.

Thus there was provision of a kind made for every class, and the schools were differentiated by the fees they charged. Each type was separate ; a pupil could pass from one to another only by reason of a change in his parent's income. Nor did the entry of the State in 1833 introduce any new principle for a considerable time ; the State came to the assistance of the poor, and assisted the churches to build schools in districts still unsupplied, but it brought no new conception of national education. Even in 1870, when the State created a new type of school maintained by public funds, it excluded from such aid all schools which charged fees exceeding ninepence a week, on the theory that it had no obligation to parents who could afford a larger sum. The State denied any responsibility for pupils who had the ability but not the means to profit from higher instruction. It provided a minimum of instruction, and gave even the poorest child the right to this minimum, but anything beyond this could be obtained only by private help.

At the same time the State was inconsistent. By the creation of the Science and Art Department in the middle of the century, an organisation separate from the Education Department, it offered grants to pupils who passed certain examinations, and apparently ignored the fact that an increasing number of the examinees came from grammar schools. A similar inconsistency resulted from the Technical Instruction Act of 1889, which provided grants for instruction in science and technology, enabling many grammar schools to derive considerable aid therefrom. If the State

denied its responsibility by withholding help with one hand, it was abundantly generous in scattering funds with the other. The chaotic administration of the late nineteenth century was brought to an end, first, by the Board of Education Act of 1899, which brought about a unification of separate departments, and second, by the Education Act of 1902, which prepared the way for a national system with more clearly defined relationships between different kinds of schools, and for a realisation of the principle that poverty and social class are not the best determinants of educational provision.

It can thus be seen why the elementary school in England has been, and still is, the school of the poor. In Wales, Scotland, America and other countries the social distinction has operated much less strongly, and for different historical reasons. There have been attempts since the Great War to realise the idea of the "common school" in certain European countries, where social distinctions were formerly operative in sharply dividing the schools, so that children of every social grade, rich and poor, may begin their education side by side. In England there has been little change: the children of the rich do not attend the elementary schools, while the children of the poor have gained admission to secondary schools, not because the expensive schools have opened wide their doors, but because, since 1902, a new type of secondary school has been created where low fees and an extensive scholarship system have made secondary education more widespread.

The problem is not an easy one. Democratic sentiment would condemn the perpetuation of a distinction based on wealth, and would plead that the child's capacity is a much juster basis of division. The argument for the "common school" is that the human

family must learn, as early as possible, to live together, that there are too many divisions which separate men, and that all children, no matter what social class they come from, have something to learn from and something to teach the rest. It has been a gain in Scottish Education that the children of laird and crofter sat together on the same benches in the parish school, and accompanied one another to the university, but the attempts made in England to create the same tradition have been unsuccessful.

The failure in England is due, no doubt, to a false sociology, fed by the historical associations with elementary school education. To many people the elementary school has meant inferiority, cheapness, dinginess. But this is not all. Parents who value refinement, correct speech, gentle manners and other social qualities hesitate, knowing the force of environment, before committing their children to the daily influence of large numbers of young people whose speech, manners and conduct seem to them deficient. If pressed on the point, many of them would admit that the elementary school is more efficient in some ways than the private school which they choose in preference, but this admission does not diminish their objection.

How deeply ingrained are the distinctions of social grade is well illustrated by the Public Schools of this country, which stand almost wholly aloof from our national system of education. Fed by the Preparatory Schools, and closely connected with Oxford and Cambridge, they offer a complete education from childhood to maturity to those who can afford the fees. Though they admit the children of those wealthy parents who regard them merely as an avenue to the higher social grades they yearn for, it is true to say that their glory and their strength is derived from parents who value

culture, breeding and the traditional virtues of the English gentleman, and who are willing to make considerable sacrifice in order to let their children enjoy the advantages of the system.

In our system, then, the factor of wealth makes a big cleavage between institutions, and this cleavage is illustrated not only in the type of pupil admitted, but also in the type of education provided. In education time is an important datum ; it must not be forgotten that during the nineteenth century the vast majority of elementary school pupils left at a very early age. It was not until 1893 that the minimum age for exemption from attendance was raised from 10 to 11, and in 1900 to 12, a condition which had profound influence on the work, methods and discipline of the elementary school. Driven as were the teachers by examination requirements in the era of " payments by results ", they were handling very young scholars whose instruction was at a very modest level, and as the percentage passes in the three R's generally reached 80 or 90, the elementary nature of the work may be imagined.

There is also another factor which differentiates schools, although in a less clear-cut fashion than social status, namely, the operation of vocational preparation. In former times book education was provided for those classes who needed letters for their avocation, the priests, lawyers and clerks. The training of the knight, the courtier, the soldier, the farmer and the craftsman was obtained elsewhere—in castle, in camp, on the farm and in the workshop. But a new impetus to book-learning came with the Protestant Reformation, and the ability to read the Bible became a universal desire ; indeed, in Lutheran countries confirmation was withheld until the candidate could read, and marriage was forbidden to the unconfirmed. The

Differ-
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counter-reformation, led by the Jesuits, also promoted the instruction of the people against the heresies of their opponents, and from these movements may be traced the idea of universal instruction, based not upon social advantage or vocational requirement, but upon a deeper human need. It has been shown how equipment for adult life has been a constant factor in widening and extending the curriculum of the schools; yet alongside this there has been maintained a faith in a liberal education pursued for its own sake and apart from any vocational utility. The controversy between the champions of a liberal education and what is sometimes derisively called a "bread and butter" education goes on in many parts of the world, but in England the tradition has been heavily on the side of a liberal education, partly because of a belief that education is for life rather than livelihood, partly because of the practical difficulty that the school seldom knows to what occupation a boy or girl will go.

It is obvious, however, that the idea of some pre-vocational training in the last year or two of school life is gaining favour. That public opinion is inclined to favour it is shown by the growth of private commercial schools in our cities, where adolescent boys and girls are given an intensive training leading to junior posts in offices and shops. The same tendency is seen within the national system: the Junior Technical Schools have been set up during the present century in those towns where engineering and allied trades flourish, while the Selective Central Schools of recent years have been planned to give a four-year course of which the last two years are to have a technical or commercial "bias". Some secondary schools, too, have arranged commercial courses during the last year of instruction. There also exist a few "trade schools"

in this country, where vocational training of a more specific and specialised nature is given, but their number is few. The general emphasis has been, and still is, on the provision of a general education in all types of school, although the movement to offer some special course in the last year or so, not so much as a preparation for a particular occupation as for the study of the principles that underlie a group of occupations, is likely to advance.

But it is difficult to classify schools and school courses into liberal and technical, since many branches of study are common to both. Scholars may learn French in order to understand the literature and culture of France, or to acquire what is called commercial French and write business letters, and only the detailed syllabus will show whether one or the other aim is uppermost. It is possible, of course, for a school to pursue both, and defenders of "bread and butter" studies are not wanting who argue that a cultural value can be derived from them.

There are three chief ages at which pupils in this country now leave school, and these correspond generally to three broad divisions of occupation. This fact has exerted a strong influence in shaping the work of the schools. The three ages are 14, 16 and 18; the most important from the point of view of numbers is the first, for about nine-tenths of the children leave school at that age, and the question whether it should be raised has evoked much public interest in the last ten or twelve years. The majority of the secondary school pupils leave at 16. A selected few in the secondary schools and a majority in the Public Schools continue to 18 or so.

Occupations, trades and professions may be classified, broadly, in three groups :

(a) *Manual and Unskilled Labour.*—The fields, pits, factories and workshops, and the lower grades of domestic service absorb large numbers of young people, and a large majority of those who leave school at 14 will seek occupation in one or other of these ways. Even in recent years of trade depression and unemployment, there has been a heavy demand for the labour of young people, especially between the years of 14 and 16, although many of the jobs are blind-alley occupations, and offer no satisfactory prospects for later years. In the distressed areas, however, the demand for young people has also failed, and many of them have left school and grown up into manhood without employment or hope of it.

(b) *Skilled Artisan Work, Service in Retail Trade and Lower Grades of Office Work.*—The secondary schools, junior technical schools and central schools supply applicants for these occupations, to which the age of entry is 15 or more.

(c) *Professional (Law, Medicine, Engineering, Teaching, Journalism, the Church), more responsible Employment in Offices and Warehouses, and in Technical and Manufacturing Industries.*—These occupations demand a full-time secondary school education, often continued to the age of 18, and followed by university or professional education of varying length and scope. The syllabus of work is designed to secure a general education up to the age of 16, and specialisation after that age.

Ability
as the
criterion
for
differ-
entiation

Social status, the demands of future vocation, and the school-leaving age have combined to fix the general provision of schools, and to determine their general outline. But since the Act of 1902, when the State accepted the new viewpoint that its duty was to promote the good life of all citizens, a silent revolution

has been proceeding, some of the effects of which are now clear. The extension of secondary schools and the provision of an extensive scholarship system has given higher education to pupils selected on the basis not of wealth but of ability. The development of new universities and the provision of scholarships by individuals, by Local Education Authorities and by the State itself, has opened the door of opportunity to many who, a generation ago, were entirely excluded from a university training. The institution of new types of schools has followed the discernment of the needs of various sections of the population, and the principle adopted has been to promote the general good, irrespective of the barriers of wealth and creed. In some of the open-air schools, pre-tubercular schools, nursery schools, schools for the blind, the deaf, the crippled, also in the new primary and senior schools, one can see how completely the attitude of the State has changed since the nineteenth century. The legacy of bad schools left to us by a former age is an embarrassing one, but the new schools show how real is the improvement that is proceeding.

The demand for a more rapid improvement marks the impatience that accompanies all social change. It is the tragedy of such change that it falls so unjustly on its recipients; by a mere accident of residence a child may be compelled to attend a school that is unfit to shelter human beings, while a child from a home a few hundred yards away may, under the same regulations, be attending a new school where health has been an important consideration in its erection. So, on a faulty examination system, the difference of less than one per cent in an examination test may send one child to a secondary school and keep another in an elementary school. It is contrasts of this kind that

feed the impatience of those who condemn the education system for what it has not done, and sometimes forget how much has been done.

For not only has there been a large extension in the facilities for education during the present century, but also there is taking place a reorganisation in the types of schools provided and in their integration in an orderly system. At the beginning of the century the elementary schools were practically unconnected with other institutions, and they provided for children who must attend between the ages of 5 and 12, and who might attend before and after the compulsory period. They usually existed as two departments, infant and senior, in one building, but under separate heads, and the task of the infant department was generally assumed to be the speedy preparation of the youngsters for the trials of a formal education that awaited them in the upper school, to which they were sent when their reading, writing and arithmetic had reached a sufficiently high standard.

If we contrast with this picture the general position that has been reached in a reorganised area, we see that some far-reaching changes have taken place, and we may note the influence that has been at work in the attempt to fit the school to the child and his development. The elementary school in its old form has gone, and a number of schools have taken its place.

The nursery school is designed for children between the ages of 2 and 5, and is mainly intended to safeguard the health of these "toddlers". But health is not its only concern: it supplies an environment that awakens mind, and it accustoms the young child to enter into social relationships. It is a small school, designed and equipped for the ages it serves, and has no connection with other departments. It lays more stress on garden

and open air than on buildings ; it gives no formal instruction ; it encourages the child to discover and develop his interests, to train himself in play, in the acquirement of hygienic habits, in the simple service of helpfulness that garden and schoolroom and school meals afford.

While a national consciousness has been aroused against the horrors of the slums, which injure not only the bodies but also the minds and souls of little children, the nursery school is not intended only as a temporary palliative until the slums have been cleared. Modern life is creating the single-child family and also the family of the professional woman, but the child needs both the companionship of children of its own age and the environment which will supply its needs.

The infant school covers the years from 5 to 7, and it has steadily progressed from the crude practices of earlier days, when it was regarded as a time-saving device for the upper school and the place where the foundations of the three R's could be laid. It has, since the influence of Froebel, which began to be felt in this country soon after the middle of the nineteenth century, given more and more place to the active needs of little children, and now gives much more time to games and practical occupations, to physical exercises and rhythmic movements, to singing and dancing. But a tradition still lingers from former times, for criticism is still heard from the upper school about the faulty reading and counting of the children sent forward. Promotions are now made on the basis of age, and not of attainment, and it is inevitable that some children of 7 will have made little progress in formal skills. Infant school teachers should be a little bolder in resisting the complaints of their colleagues ; they should not be driven to make hurried attempts to improve

reading and arithmetic in order to appease the critics. The characteristics of children as described in the last chapter, and as portrayed in many books dealing with the study of children, should be used as a basis for infant-school procedure.

The
Hadow
Report

It is in the upper department of the old elementary school that a changing organisation is most apparent. The extension of the school-leaving age to 14+, secured by the Act of 1918, quickly produced a feeling that the provision for these older scholars was inadequate. As has been shown, the early leaving age in the nineteenth century had accustomed the elementary schools to methods suited for young children, and the criticism strengthened after 1918 that the compulsory retention of older children resulted in what was declared to be a "marking of time". The problem was referred to the Consultative Committee of the Board of Education, then under the chairmanship of Sir Henry Hadow, and the report of 1926, called *The Education of the Adolescent*, and more generally known as the Hadow Report, proposed a new scheme of organisation.

The term elementary school was to disappear and a division was to take place at the age of 11+. Education for children below this age, in infant and junior schools, would be called primary, and after this age post-primary or secondary. The junior school would be homogeneous; its task would be to provide a four-year course between the ages of 7+ and 11+. But post-primary education would be of varying types, according to the capacity and needs of the pupils revealed in the junior school, and new kinds of schools were suggested. The main recommendations of the Report, especially the principle of the "clean cut" at 11+, were accepted by the Board of Education;

they won general favour among the Local Education Authorities, and schemes of reorganisation were begun. They have progressed very unequally in different areas ; they were checked by the financial crisis of 1931, which stopped for a time all but the most necessary building grants ; they were complicated by the fact that most authorities were engaged in schemes of slum clearance which rendered calculations of future needs very uncertain ; the varying birth-rate after the war showed that after 1934 the school population would fall rapidly and prompted some economists to advise a delay in providing accommodation that might not be required. The feeling of uncertainty was fed by the proposal in the Hadow Report that the compulsory school-leaving age should be raised to 15, a proposal not accepted by the Government of the time, but accepted by the Labour Government of 1929-31, who brought forward Bills in 1930 and 1931 to secure this aim. Dissension arose largely on religious grounds and from the promoters of voluntary schools, and the Bills were withdrawn. The financial crisis brought the struggle to an end for a time, but it is now announced that the age will be raised to 15 in 1939.

Thus, although the Hadow proposals were so readily accepted by public opinion, there is sufficient explanation for the delay that has occurred during the ten years following their publication. The problems of the Local Education Authorities during this period have been unusually acute, but time will help to solve them, and the speed of reorganisation will accelerate.

Junior school education will consist of a four-year course, during which the acquirement of the three R's will be an important task. But the interests and attitudes of boys and girls as suggested in the last chapter must guide the junior school in its selection of

the curriculum and the tireless energy of the period must find satisfaction. If the teachers in these schools are to receive children who have not achieved a common standard of attainment at entrance, so, too, must they resist the claim that at 11+ all their pupils must be able to pass a common examination. Individual differences among children increase with age, and the junior school must not be sacrificed to the needs of a later stage.

Types of
Post-
primary
schools

The age of 11+ brings the parting of the ways. The Hadow Report suggests two main routes: to the existing secondary schools for pupils able to profit from a more intellectual programme, and to a new type of school, called central or modern, for those pupils whose interests and capacity are better met by a more realistic and practical education. It is not proposed that the numbers proceeding by the first route shall be much enlarged, and therefore the second route is intended for the large majority.

This second type of provision may assume different forms of organisation to meet changing local needs and convenience, and three kinds of school, the Selective Central, the Non-selective Central and the Senior School, have come into existence. The names require a brief explanation.

The selective central school demands a certain standard of attainment, at least in English and mathematics, and in the Hadow Report it is intended that the course provided in the first two years shall be parallel, as far as possible, with that of the secondary school, so that pupils who show later proof of capacity may be transferred without much difficulty at the age of 13+. On the assumption that the school-leaving age would be raised to 15, there would remain for the central school a further two years, in which a practical

"bias" would be introduced, designed to prepare the pupils for commercial or technical pursuits. Many such schools have been founded, but it is too early to say how far they have succeeded in their aims. The failure to raise the school-leaving age has limited their work seriously, for the age of 11+ may mean eleven years eleven months, and thus a pupil may reach the leaving age after little more than a two-years course. Nor has the practice of transference been much used, since there is a reluctance among teachers to give up their most promising pupils to another school. In some places the selective school has been encouraged to prepare boys and girls for the School Certificate examination, a tendency which draws it away from its original purpose, which was to develop a more practical form of education.

The non-selective central school admits all the pupils, other than those going to secondary schools, from different junior schools of its area, and thus contains a wider variety of ability and attainment, especially in the proportion of pupils who are likely to benefit most from practical pursuits. No entrance test is imposed, and one of the first tasks of the school is to group the pupils into more uniform groups. If the school is large enough they are usually put into three "streams", which move at different rates up the school, the C stream containing those who find book-learning a difficulty, and for whom a special curriculum is required. These were the pupils who "marked time" under the old method; either they were required to repeat the same work, or they were in a state of perpetual bewilderment by lessons which were designed for those of quicker minds. A visit to a non-selective school by those who remember the former elementary school will offer clear proof of the

advance made in fitting the school to the pupil. At the same time the A stream may contain pupils as intellectually gifted as those in the selective school, and their work in the more academic subjects will show their superiority. But in practical subjects, in art and music, in athletics and in the general social life of the school, the streams mingle, and qualities other than intellectual superiority determine the organisation of the community.

The senior school contains the residuum of pupils who at 11+ have not secured admittance to a secondary or central school. Its pupils come from either one or several junior schools. It may be in a separate building, or it may be under the same roof as the junior school, and under the same head. But the name is intended to mark the fact that its curriculum is planned as a whole, and is distinct from that of the junior school, and its organisation may also differ in the degree of responsibility it places upon the pupils and the privileges it grants them. Obviously, this type of school is often the only one possible in a thinly populated area, but it is also used in towns, since it fits in more readily with denominational schools. But the senior school makes demands upon buildings and equipment which the older denominational schools cannot often meet: there must be practical workshops and a laboratory in addition to classrooms, and there must be provision for games and physical training if such a school is to play its proper part.

Other variations exist in types of schools intended for pupils outside the secondary school system, notably the "higher top" schools in the county of Durham, which were an interesting forerunner of the Hadow Report proposals.

The break at 11+ is designed partly to integrate

the junior and the secondary schools, for the main course in the latter begins at this age, and a selected fraction of the junior school scholars are offered "special places" in them. They are required to enter into an agreement to stay at the secondary school until the age of 16, when the School Certificate examination is usually taken. The course lasts, therefore, between four and five years, and maintenance grants are provided for those who can show need. During the present century the number of pupils at maintained secondary schools has more than quadrupled, largely because of the facilities offered in free places and special places.

Eleven plus, therefore, is now a significant age in the pupil's history, and decisions are made about his future which may affect his whole life. Selection is by examination, yet the unreliability of examinations has received in recent years an enormous amount of attention. On the one side there is the obvious fact that many children at 11 do not reveal their latent powers; on the other is the admission that no better mode of selection has yet been found. Some would cut the knot by demanding secondary education for all, in which case the seriousness of the test at 11 would disappear, and later guidance would be offered within the school where capacity could be tested more carefully; others look to intelligence tests, standardised school records and reports, as supplementary to the examination and likely to diminish its imperfections. Whatever be the solution reached, there is here one of the most difficult administrative problems within the national system, and one that is likely to give trouble for many years to come.

We have now described the chief parts of the compulsory national system, but outside it there stand ^{Private} schools

many institutions, attendance at which exempts the pupil from the penalties of the laws of attendance. In their variety they exhibit a picture that may be summarised as chaotic, since the private schools accept pupils of all ages, vary in size from insignificant groups meeting in a private house to large schools with several hundred pupils, charge fees of all dimensions and provide courses of instruction from the rudiments to the most advanced work. Their number is unknown and in the mass they defy classification.

The Preparatory and Public Schools stand apart from the rest, for they enjoy a prestige and reputation which give them a stability and a publicity which make the term "private" a misnomer. Through the Preparatory Schools Association and the Common Entrance Examination to the Public Schools the Preparatory Schools are united in a general way; through the Headmasters' Conference and the quest for University Scholarships the Public Schools show many similar features. There are, of course, other private schools, too, which may be grouped apart from those mentioned, *e.g.* schools largely supported by religious bodies and schools controlled by proprietary bodies, such as the Girls' Public Day School Trust.

One of the most striking features of English Education is the part played by voluntary effort, which has, indeed, shown an initiative and vigour beyond all praise, and it is important that this freedom should continue. What is wrong is that there is too little oversight over the premises where schools are held, and over the qualifications of the staff who conduct them, two points of safety which the best private schools provide and which they would like to see required in all cases, for their own reputation is sometimes assailed by the bad examples that come to light.

The joint efforts of voluntary and statutory bodies are well illustrated in the provision of continued education after the years of compulsion are over. There are about a million pupils attending voluntarily the classes provided by Local Education Authorities, the vast majority in the evenings, after the day's work is over. The age range in these schools is very wide : students may enter at 14 and men and women of mature age are to be found in attendance. These courses are pre-eminently vocational—technical or commercial or domestic—but there are also many cultural courses offered. Side by side with them are the classes organised by such bodies as the Workers' Educational Association (supported largely by public funds), the Y.M.C.A., Co-operative Societies, various religious bodies, and the informal and practical training that is given to Scout Troops and Rover Crews. These voluntary classes demand a different technique from that of compulsory schools for the young ; they show both the vigour and the defects of voluntary work, rising sometimes to an impressive fervour, sinking at times into an ineffective slackness for lack of leadership.

Continua-
tion
Classes

It is not easy to describe in a short chapter the range of schools in Great Britain, so different are they in origin, purpose and administration. Much of our system is only to be understood by tracing its development from the past, and there is much to be grateful for in its variety, impatient as may be the official mind to secure uniformity. For education, in addition to being a national need, is also concerned with the development of individuals, for whose well-being variety, experiment and freedom are essential.

CHAPTER VI

CORPORATE LIFE OF THE SCHOOL

IN a book on class teaching a chapter on the influence of the school as a whole may seem to lie outside the plan. Yet the pupil belongs to the school just as much as he is a member of a particular class in it, and the influence of the community on the class and on the individual is continuous and pervasive. Membership of the class or form may change from day to day, even from lesson to lesson, but the school persists as a community, unified by its aim and purpose, and linking together every member by a common name and a common life.

Influence
of Arnold
of Rugby

The influence of society on the individual is a familiar enough notion of our time, but so far as education is concerned it received scant attention until Arnold of Rugby saw the possibility of using it as a moral force. The dangers of corruption had long been familiar, and the idea had been magnified in Puritan thought, for, in the stark individuality of that creed, the snare of the "world" was regarded as the Christian's enemy: the "world" was evil, and the soul must be saved by the avoidance of its contamination. Arnold, while conscious of the dangers, and indeed haunted by them, saw that there was another side, and that a healthy school society would be a powerful check against individual wrong-doing.

The state of the schools at the time called for drastic reform. Harsh repression and brutal punishment, together with discomfort and neglect in the boarding

schools, had produced their natural fruit, and open rebellion and secret vice flourished. Public opinion was repeatedly scandalised by the disclosures that were made, and the view came to be more frequently expressed that the boarding schools, especially the Public Schools, should be closed. The schools increased the floggings—Keate, the arch-flogger, was at Eton until 1834, seven years after Arnold went to Rugby—and seemed unable to attempt any other solution. Marlborough was founded in 1843 and quickly imitated its older models, for in 1851 it was the scene of an open mutiny similar to those which had plagued Winchester and Eton a generation earlier.

Arnold was at Rugby for fifteen years and in that period not only transformed the life of the school, but also set going an influence through his assistant masters and boys which gradually transformed other schools in every part of England, and created new ones. The essence of his work was to turn the public opinion of the school from rebellion against authority to co-operation with it. The Arnold "tradition", fed by Stanley's *Life of Arnold* and by *Tom Brown's School-Days*, marked a real change in English education; the modern critics who speak of the Arnold "myth", and attempt to disperse every part of the halo that gathered round his name, are often at fault in that they ignore the evils that he set out to cure. It is not necessary here to trace the controversy that has been waged round him; it is sufficient to record that he brought important changes into the conception of English education and of the work of the school.

Arnold had a clear conception of the influence which the school, as a corporation, exerted on the individual. What is called the school tone, the school spirit, the *esprit de corps*, the school tradition, was raised by him

into a conscious ideal which should animate and inspire every boy. In the school chapel, his Sixth Form teaching, his use of school prefects, his reorganisation of the boarding houses, and in his encouragement of games he tried to build up a sentiment round the school which would find daily outlet in conduct that was guided by this all-controlling principle. The school was greater than the individual. If Rugby was to continue it must be a school of "Christian gentlemen"; if the individual, after due trial, could not or would not accept that aim, then he must withdraw from a society for which he was unfitted.

Some of the criticism urged against Arnold in recent years springs from the fact that he was successful—perhaps too successful. Lytton Strachey¹ pressed this point in grotesque exaggeration when he represented Arnold's pupils as pale and ineffective copies of their master, without mind or will of their own. In the example he used of Arthur Hugh Clough he found scope enough for a vitriolic pen, but in generalising from one instance he betrayed his bias; if he had taken Thomas Hughes, the author of *Tom Brown's School-Days*, for his example he would have had some difficulty with his thesis.

Yet it is easy enough to see that a school may exert a strong force over the individual, and that a dominant personality like Arnold's must produce some devoted disciples who will rely on him too much. Young people are suggestible and pliable; they are given to hero worship and to concrete loyalties, and if the school and the teacher do not win their affection some other institution and person will. Natural leadership is for the few, and a considerable amount of dependence is for the many. If Arnold won the loyalty of his pupils

¹ In *Eminent Victorians*.

to his view of life he did so by substituting a finer ideal for the boys of Rugby than the one which prevailed in other schools. Some of his critics start from the assumption that he sapped his pupils' independence and imposed on them a leadership that was unnecessary, but it is difficult to find the facts which would establish this view.

The difficulty in this problem of influence lies in its excess, or where the attachment becomes fixed and unprogressive. Normal development should be towards a greater degree of independence as judgment ripens and character strengthens, and the pupil should progress beyond his school and his tutor, and take over the direction of his own life. It has been said that Arnold's pupils, when they went on to Oxford and Cambridge, could still be recognised in their more serious attitude to life ; and this has been regarded by some critics as a point for condemnation. It would be if it could be shown that this attitude was what the psychologist would call a fixation and that the pupils were still dependent on Arnold for their way of life. But in itself the fact means little enough : everybody bears about him some marks of his past, and experience at Rugby left its own traces. It used to be said, in the factory towns of the north a century ago when a cripple was seen in the streets, " There goes a factory lad ", and there was some justification for the saying, though it was clearly untrue in many cases. Perhaps the statement about Rugby boys was just as unscientific.

The danger of fixation, however, is real enough, and the school is perhaps more likely than any other institution to produce it. The school guides the young through their most dependent years ; it fills a large part of their waking life, and its influence continues throughout a long period. It has a cumulative in-

fluence and operates more strongly on older pupils who identify themselves consciously with the school, and on boarders who are removed for long periods from the rival influences of home life. The fixation may take many forms, and we are all familiar with the Old Boy whose loyalties remain embedded in the past and continue to absorb his energies to the exclusion of new adjustments. The modern gibe about the "old school tie" is not directed so much to an article of wearing apparel as to the fixation it symbolises.

Educa-
tional
value of
corporate
life

In spite of the danger, however, the school is right in regarding its corporate life as of great educational value. When pupils come together, they begin to group themselves naturally for various purposes, and this tendency increases as they grow older. Children in the nursery school period generally play alone, content to see other children about them, but absorbed in their individual interests. By the end of the infant school period they seek the companionship and co-operation of children of their own age, and combine in groups wherein the individual may measure himself against competitors. The give and take of this group activity is a means of informal education : pupils receive hard knocks ; they learn to look after themselves, providing the knocks are not too hard and they are not unduly sensitive, for which reason a certain amount of oversight is necessary. The authority of the teacher may not be directly invoked, but he exercises a restraining influence, and he may win the most forceful spirits to a dawning sense of responsibility. In the post-primary stage the possibility of co-operation rapidly increases and is accompanied by a growing recognition of the importance of the group, the team, the House and the School ; the individual must practise the art of self-denial, and learn the meaning of his duty towards his neighbours.

His moral education depends, in part, on the success with which he learns this lesson.

School offers to the child an organised world of relationships of comparatively simple structure. Its membership is homogeneous ; its aim is clearly defined, and well within the comprehension of its older members. Leaving the narrower circle of the family life the child is prepared for the complex and often chaotic world outside by the comparatively sheltered life of the school where his problems are simplified and where help is always at hand. The dependence of the infant is gradually replaced by the independent ways of childhood, and, in turn, by the co-operation and more orderly ways of adolescence. It is at this later stage that the pupil learns most effectively what membership of a community means.

It was natural that this aspect of training should first be emphasised in the Public School, where the age of the pupils extended to the late 'teens, and where opportunities were offered in the activities outside the classroom for co-operative effort among the pupils, and for the emergence of responsible leadership. Arnold chose his prefects with extreme care and endowed them with powers delegated directly from himself, so much so that while the assistant master remained in charge of the classroom and the intellectual work, the social and moral training was the concern of the headmaster and his prefect representatives. The code of rules was perhaps too harsh, and the standard of behaviour too absolute, so that there was little opportunity for spontaneous experiment and variation, and too much detailed concern for the small things of the school world. In such circumstances there was a danger of the school becoming an end in itself, and developing a passionate loyalty which finds difficulty in admitting other claims.

In the century that has passed since Arnold the schools have everywhere made use of his methods. First in the boarding schools, then in the day secondary schools, where the normal leaving age is 16, and even in elementary schools where the leaving age is 14, there appeared the prefect system and some plan of dividing the pupils into "houses". This plan is a system of vertical organisation as opposed to the horizontal organisation of classes, for a pupil is attached to one house throughout his school life, and the house master is directly concerned with his development from the time of his admission. It thus acts as a corrective to the increasing practice of specialist teaching which puts a boy or girl in charge of a number of teachers, each concerned only with a small fraction of the pupil's work. While the house system was at first largely confined to the organisation of games, there have been attempts to use it for the promotion of competition in the intellectual and social activities of the school, and house vies with house in the effort to gain points which will decide the championship by a combination of very different qualities. In a large school the separation into houses offers at once a more intimate kind of loyalty to the group and a larger number of opportunities for responsible leadership, but there is an obvious danger that the fierce competition between houses may endanger the unity of the school.

Growth
of cor-
porate
spirit

The school fosters a corporate spirit in many ways. It has a name and a building, a motto and "colours"; perhaps a uniform or some common article of dress. These are but external marks of membership, and unless they symbolise a felt unity they may be absurd. It is the experience of community which is important.

Where the school is old and has earned a great reputation for scholarship, for athletics, and for the

services rendered by former pupils, it is better able to impress on new-comers a sense of its worth, and to win from them a response of loyalty. It offers concrete pictures which hold together the vague and more fleeting emotions, and supplies to the memory unforgettable images which embody the school—the ancient hall and crowded honours boards, the school chapel, the playing-fields, even the dingy classrooms with their uncomfortable and deeply cut benches. Yet these, too, are not indispensable: a sense of community and corporate loyalty can be realised in the newest or the ugliest building, and can be stifled in the oldest and most venerable. The sense of community is passed on from pupil to pupil, from master to pupil, from head to assistant, through the experiences they share together, through the common purpose they strive to achieve, and through the traditions they inherit.

The assembly of the whole school every morning is, therefore, the chief opportunity for establishing and developing the corporate sense. It is customary to begin the day with religious exercises, and, with few exceptions, all share in the common act of worship—a hymn, the reading of a passage from the Bible or other suitable book, and a prayer. There are no strangers present, and the familiar scene offers no distractions. The keynote should be sincerity, and care should be taken to prevent any feeling of monotony. The hymns should be suitable to the singers and to the occasion, and the tunes should be well known and well within the compass of the child's voice. The passage should be chosen with the same care, and read with genuine feeling: whoever is the reader should have practised the rendering beforehand. Prayers should be repeated slowly and quietly. In a service lasting not more than ten or fifteen minutes, in an atmosphere

of quietness and reverence, the child can feel a unity in the school which subdues his own impetuosity.

The quietness of assembly, however, is easily broken, and the atmosphere quickly dispelled. It takes time to get several hundred young people into the hall, and in most schools they will have to stand the whole time, always a hardship for some pupils, and perhaps a serious physical trial for a few. The process of assembling must be planned with a view to economising the time taken—if there are several doors all must be used at the same time and give quick access to the appointed place. There should be no talking during assembly, and no waiting once it is complete.

While the school is together it is also customary for the head to make such announcements as affect all the pupils, and to report on any event which is significant in its life. It is not unusual, too, to hear general exhortations to good conduct, and general condemnations of some widespread fault. There is a world of difference in the way these necessary pronouncements may be made, and in the results they may produce: both praise and blame can be overdone, and there is usually wisdom in restraint. A false note of indignation, an exaggeration of what seems trivial to the child, a magnification of abstract virtues that seem remote, may deprive the exhortation of all good effect. Anger and ill-temper are dangerous: they attract the child's attention to the emotion and not to its cause; indeed, the cause may not exist for them, but the anger is real. Where condemnation is required the exact nature of the fault should be exposed, and the reason for its condemnation made clear. Veiled hints of consequences, and references to wrong-doing too heinous to be discussed, are dangerous: they beget curiosity and surmise. The serious fault of one or of a few

must be handled in private, and with the offenders alone. These problems often require a wise and sympathetic understanding of human nature, and in girls' and mixed schools the advice of a married woman teacher may be invaluable.

There is a more pleasant use of the assembly : the work done by a class can be offered to the school for its enjoyment. The recitation of a poem, the enactment of a scene from drama, the singing of a new song, if they are practised with a view to their presentation before the whole school, can be raised to a greater degree of excellence by the stimulus of an audience. There need be no thought of competition or of rivalry ; the occasion is one for enjoyment, and each class, from the lowest to the highest, will share in turn the responsibility of adding something to the common stock. Too little is done in most schools in sharing the experiences of the separate classes, and what goes on in them is seen by others too seldom. It should not be impossible to spare half an hour every week for these concerted efforts, at a time when all the pupils can be gathered together.

There are more public occasions than these internal activities of the assembled school, such as Speech Day, the presentation of a play, a school concert, a parents' evening, sports day, and an outstanding games fixture. Most of these events have come from the old schools and are now almost universal. Perhaps the most significant development in recent years has been in the organisation of athletic contests among elementary schools, for this has reached the stage of providing a national team in football which competes against other national teams before an audience as large as that drawn by professional footballers. Whether the selected players are permanently injured by the publicity they

Public
functions

secure, and whether the intense rivalries engendered by school football leagues for such young players are wise, has seldom been asked. In fact, there is always a danger in these public appearances of young people, a danger that is easily increased by the expression of self-satisfaction that is sometimes heard at prize-givings and speech days. To win a few more matriculation certificates, to score a slightly higher percentage of successes than the neighbouring schools, to win a swimming shield, or a championship—these relatively unimportant achievements are sometimes detailed with a satisfaction that robs them of their value. A boy who recently passed the matriculation examination at the unusually early age of 12 was screened for the entertainment of cinema audiences, with a teacher standing behind him, a party to this undesirable publicity. If the boy was a genius, one hopes that this cheap fame did not injure him; if he was not a genius, then this early development may prove to have been far from praiseworthy. The paradox of many speech days is provided by the head reading a long list of small successes, and the chairman afterwards declaring that he was unsuccessful at school but that his failure has proved no handicap. It would sometimes, perhaps, be better if the list were read to the scholars only, and the orator spoke only to the staff.

There is a better case for the school concert or play, whether it be to raise funds for the school or for charity, or to offer examples of good music or drama to the district, or to provide a legitimate spur to school work. Festivals of music or drama are regularly held in some places, and sometimes the audience does not know from which schools the performers come, or their names. In a large city recently seven or eight short plays or scenes were presented, representing the

dramatic work done in different schools throughout the year. The audience knew that they were to see groups from widely differing schools, including the High School and schools in very poor districts. The scenery and dresses were made in the schools, and the cost was small, ingenuity supplying what money could not do. It was impossible to tell with any certainty what type of school was represented on the stage at any time, and it would have been impertinent, among so many differences of excellence, to compare one group with another. Public performances of this kind are free from the evil of rivalry, and the anonymity is a check to vainglory.

Much of the social training of the pupil comes through membership of one or more of the school societies that cater for particular interests—literary, scientific, debating, musical, artistic and practical. These societies spring from the enthusiasm of a few ; they are organised on democratic lines, elect their own officers and plan their own activities with the knowledge of a staff member who wisely allows much freedom. They offer a training-ground for leadership : the treasurer must learn how to balance accounts, the secretary must learn how to keep minutes and organise business, and the chairman must acquire skill in handling people and overcoming difficulties. The teams may be run on similar lines, and the wise games master will hand over to the elected committee and officials as much business as can safely be delegated. A member of the staff will be in touch with each group, and may even have controlling power, for the society uses the name of the school and represents it, but the pupils should be trained in the transaction of public business.

These societies break through the official organisa-

tion of the school. The allocation of a pupil to a form or house is the teacher's business ; membership of a society is the pupil's choice. There should be no compulsion ; if a society languishes it is better to let it disappear for a time than to flog it into life by official favour or pressure. A vigorous society will evolve its own groupings, and officialdom must be satisfied in clearing away obstacles and encouraging initiative, keeping a watchful eye on beginnings and refraining from interference. So much is done for the pupils that the self-direction which can be fostered through voluntary societies is important.

Danger
of over-
organisa-
tion

At the same time the multiplication of organised activities, compulsory and voluntary, brings its own problems. The day-school pupil has home interests and activities which take up some of his time, and the school should claim only a reasonable share. The organisation of leisure time began in boarding schools, where there was no conflict with home occupations, but during the present century the day secondary schools have enlarged their activities in many directions, with the result that unorganised time is almost unknown to some pupils. Lessons throughout the day, society meetings afterwards, home work for a large part of the evening, compulsory games on Saturdays, with educational excursions where they can be arranged, a school camp or an organised journey in the vacation—all these engagements, valuable as they are, may be in their totality a snare. In Wales the churches have protested that the schools control the time of the pupils from Monday to Saturday to the exclusion of all other interests ; and on Sundays, no doubt, the churches, press their claim. In England no such protest is heard, though in recent years the burden of homework, to the exclusion of the child's personal interests, hobbies

and share in the family life, has aroused some controversy. The schools are in a strong position: they have succeeded in winning the willing co-operation of the pupils in whatever they undertake, and they undertake more and more. But they are dealing with dependent children and dependency can be too much indulged.

This problem underlies the whole question of corporate life, and its proper development. The child with his egoistic impulses must be socialised, must learn how to take his place in the group, how to control his desires and whims, how to co-operate with others. In Professor Campagnac's phrase he must learn not only how to live, but also how to live with his fellows. The school enlarges the circle of his acquaintances and throws him into a larger world of contacts than that of the family, but it is still a simplified world, homogeneous and easily understood, sheltered and restricted when compared with the world that awaits him. Unless he is given opportunities to manage some part of his own affairs while at school, it may happen that he will be the less ready for managing more of them on leaving school because the requirement has been too long deferred.

This is no new problem. Huxley had one aspect of it in mind when he declared that for some boys of the age of 13 the workshop might be a better place of education than the school, though probably the kind of workshop he had in mind has long since disappeared. Thring had another aspect of it in mind when he led his pupils to support a mission in the East End of London, and sent groups there to see at first hand something of the social problems in another layer of society. In recent years the Duke of York's Annual Camp, the Marlborough-Swindon camp, and many

Social
responsi-
bility

other activities are seeking to enlarge the experience of schoolboys in giving them direct knowledge of people with whom they do not normally come into contact.

Experiments of this kind are obviously valuable, but they affect only a small fraction of schoolboys, and for a short time, and it is impossible to assess the results. There is obvious need for a transference of the loyalty and co-operation of the pupil to the claims of the "great society" beyond the school, and the recently founded Association for Education in Citizenship has attracted much support to its aim of bringing into the national system of education a deeper sense of the importance of community service and responsibility. The times are favourable. The support and emphasis given by Royalty to the subject of social service, and the concrete illustration to hand of large bodies of unemployed men and women, have brought into prominence a clearer idea of the citizen's duty to his neighbours, and have evoked much practical response. But citizenship is not discharged by helping the unfortunate through a period of stress: it involves the acceptance of the view that we are all members one of another.

The ideal of the school is to train the pupil to its service, to contribute to its life, to uphold its good name, to identify himself with its fortunes, to share its burdens. In building up a sentiment of this kind, the pupil is learning that society requires the sacrificing activity of its members, and in return is his benefactor. He realises his debt to his school, and is prepared to render service to it. It is more difficult for him to realise what he owes to the whole community, to the nation, to humanity, and in what way he can serve it. Yet that realisation is essential for every citizen in a democracy: in the autocratic state he is told what he

must do, but in a free democracy he must find out what service he can render and he remains a volunteer.

It will be stated, no doubt, that a realisation of community in the wider sense is impossible by the age of 14, when 90 per cent of the pupils finish their formal education, and that the raising of the age to 15 will make but small difference. The answer is that the task has not yet been properly faced. Some schools are showing that the community sense can be awakened among pupils below the age mentioned, and organisations like Scouts and Guides have shown that community service can be rendered on occasion. Pupils will willingly serve their school, and it is not impossible to devise situations whereby they are given the opportunity to serve the near community.

The sense of community, especially in large towns, is weak enough among all classes. The care of common property, the safeguarding of common privileges, the undertaking of common responsibilities, being everybody's business, is proverbially nobody's business. The apathy of the electorate, especially in the selection of local administrators, is notorious and the general attitude towards those who are elected is ungrateful. They are condemned as extravagant when they spend money, as foolish when they make innovations, and as reactionary when they proceed with caution. It is curious to contrast the real neighbourliness of English life, and the many acts of kindness done from household to household, with the deep gulfs that exist among classes and the lack of cohesion in conducting the common affairs of the whole community. The fault is widespread, and class condemns class for its particular failings, yet there is little to choose between one anti-social act and another.

Much, no doubt, is due to ignorance, and the com-

plexity of social life removes community business more and more from the ken of the ordinary citizen. Neighbourliness flourishes most in small communities, where everybody is known ; it wanes in large cities, where it is checked by suspicion. So, too, the sense of community is a weaker growth in the larger areas of population. If the pupil is never taught the elements of citizenship he may derive little knowledge from experience, and much of it will probably be partial and incorrect.

But knowledge is not enough ; there is also needed a sentiment which is built up round the common life of the community. It has been shown how successfully the school can evoke such a sentiment in its pupils, but the problem is to change the object of the sentiment from the school to the community of which it is a part. The school is the creation of the community, and is maintained by it. The school exists to help the community, and unless it changes the life of the community it fails in its purpose. Service to the school is service to the community, and should be so represented to the pupils on all suitable occasions. They realise the need of teachers, of prefects, of rules and of organisation ; they come to see their part in the whole ; and they can be led, in stages, to some realisation of that larger whole which lies beyond. The corporate life of the school is a preparation for citizenship, and its value is to be measured by its effects in after-years.

PART TWO
THE CURRICULUM

CHAPTER VII

THE NURSERY AND INFANT SCHOOL

IN Chapter II it was shown that the curriculum had been largely determined by the motive of equipment, whereas in the early stages of schooling a different motive, derived from a study of the nature of the child, must be the chief determinant. Develop-
ment of
the
modern
view

This modern viewpoint is clearly illustrated in the development of the infant school, which shows at different periods of its history the changing conception of education in the nineteenth century. While, no doubt, some early promoters of the infant school like Robert Owen discerned the needs of infancy, it was not long before the motive of equipment prevailed. Lord Brougham valued such schools because they enabled children to be instructed at an earlier age and so made ready for a life of industry.

From that time and throughout a large part of the nineteenth century the motive of equipment was entrenched, and the reformers made slow progress in their struggle for a recognition of the rights of childhood. When Mr. Robert Lowe in 1861 decided to pay grants to the schools on the results of an annual examination he proposed to submit babies of 5 and under to the same test, so foreign to him or his officials was the idea that infancy might require a different measuring rod. The proposal was withdrawn, and the infant school was paid grants on attendance, but it was clear that in the minds of many people the infant school existed to prepare

children for the all-important "standards" of the upper school.

On such a view the problem of the curriculum was a simple one. In Standard I the children were required to pass an annual examination in the three R's; the purpose of the infant school, therefore, was to bring the child of 7 years to such a stage of proficiency in these skills that the teacher of Standard I might, within the next twelve months, complete the process to the satisfaction of the inspector. The curriculum was completely determined by the subsequent stage, and the merits of the infant school were judged by requirements that violated the principles of the reformers.

This conflict was made worse by uncertainty as to the age when children should begin to attend school. The Act of 1870 selected the age of 5 as the beginning of compulsory attendance, but in the industrial centres many children under this age were sent to school, and in 1872 the Code fixed 3 as the minimum age at which children might be counted for the attendance grant. The number of such children at school rapidly increased until the beginning of the present century, by which time nearly half of the child population between 3 and 5 were attending school, an eloquent proof of the inroads on home life which an industrial civilisation had produced.

These "babies" were treated in much the same way as the older children. There was a babies' room, often containing a precipitous gallery down which they occasionally rolled, but frightening enough to hold a majority of them in check. There they had a succession of "lessons" and learnt their letters. An inspector's report of that day will serve to show the ludicrously wrong treatment that was provided. The children "learnt to read from a card some such mono-

syllabic morality as this : ‘ Sit on a sod and nod to me. A cat sits on a sod and nods to a lad. A lad sits on a sod and nods to a cat and to me. It is not a sin to sit on a sod. Am I to sit on a sod and nod ? No.’ Reading is a wrong name, for the children usually know the card by heart and sing it in Gregorian tones. The gallery is under the control of one or two pupil teachers. If there are two, one invites attention to an alphabet card, while the other fitfully maintains order with blows and threats.”

If a child was unfortunate enough to be sent to school at 3 he might have to endure this torture for two whole years before he was sent on to Class II and Class I of the infant school proper, and there made ready for the serious demands of the standards.

Before the end of the century a new attitude was adopted in Whitehall. In 1891 the Education Department advised its inspectors that in the babies’ class “ the subjects of lessons should be varied, beginning in the lowest section with familiar objects and animals, and interspersed with songs and stories appropriate to the lesson ; the spontaneous and co-operative activity of the scholars should form the object and animate the spirit of each lesson ”. The leaven of Froebel was at work.

A growing fear that education below the age of 5, as carried out in schools, was prejudicial to the health of infants, and perhaps also to their minds, began to be expressed, and a report in 1905 by five of the recently appointed women inspectors declared that children between the ages of 3 and 5 gained no profit intellectually from school instruction, and that the mechanical teaching which they often received dulled their imagination and weakened their power of observation. Accordingly the Board of Education empowered the

L.E.A.s to refuse admission to children under 5, and since that time the number in attendance has fallen by more than two-thirds.

Needs of
children
under 5

Yet a problem remained. The exclusion of children under 5 in towns where housing conditions were bad, or where mothers were at work, exposed the young to social and physical dangers which were obvious enough, and recent years have hardly diminished them. If the slums are being demolished the streets have become more dangerous, and female labour has not diminished. Moreover, the falling birth-rate has increased the number of single-child families in which the child is deprived of playmates of his own age and may be left too much to his solitary ways, a result that can be seen in all grades of society.

Of all these evils that which has most influenced public opinion is the threat to the health of the child. The public services which have been created in the present century to safeguard national health have found in the school a most valuable agency, and from the age of 5 the child is under regular inspection and can obtain remedial treatment. In the maternity centres the expectant mother and the newly-born child are similarly cared for, but between the ages of 1 and 5 the child may be unaffected by any public provision. Yet the Chief Medical Officer of the Board of Education asserted in one of his early reports, and has often repeated the truth, that "it is during the first years of life that diseases are often acquired—diseases which might frequently be avoided by the use of common hygienic precautions, but which, if contracted, are liable, if they do not prove fatal, to cause permanent injury to the constitution".

But it is not only the health of the young child that must be protected: the educator's concern for right

mental development raises other considerations. The negative policy of excluding children under 5 from school, as was done in 1905, was no doubt justified, but it avoided the deeper problems as to the proper age of school attendance, and the determination of the best type of school for young children. The age of 5 was determined partly by historical factors, and partly with reference to the practice of infant education as it had developed in the nineteenth century. The type of instruction given and the methods employed were deemed to be harmful to children under 5, but no consideration was given to the question whether the instruction and the methods might be so changed as to make the school a valuable institution in the training of the young.

Yet the infant school was developing even then from a place of passive instruction to one of active occupations, and the influence of Froebel was growing. Both the structure and the furnishing of the school were being adapted to new conceptions. The galleries were removed, and fixed desks were replaced by light movable chairs and tables. Floor space was increased, lighting and ventilation were improved, cloakrooms and lavatories were added, and some of the older buildings were changed almost beyond recognition. In the new schools the change was complete : provision was made for converting classrooms into open-air rooms, gardens and playgrounds surrounded the school and were easy of access, and the inclusion of varied activities in the curriculum, with a corresponding diminution of formal "lessons", transformed the modern infant school into an institution much nearer the conception for which the reformers of a century and more had been working. The motive of equipment had given place to that of recognising the nature

of the child and of satisfying his needs. The care of health, the training in hygienic habits, the process of socialising the child through co-operative play, the arousing of curiosity in a rich environment, the acquisition of simple skills, the promotion of happy activity through varied pursuits—these aims now overshadow the meagre drill of the three R's and put them in a truer perspective.

Influence
of
Margaret
McMillan

There have been many experiments during the present century to devise for young children before the age of 5 an institution suited to their physical, mental and social needs. They include free kindergartens and day nurseries in large towns, where working mothers can leave their babies during the hours of employment, and the more noteworthy establishment of the nursery school, founded in 1911 at Deptford by Rachel and Margaret McMillan, following upon their social and educational work among the working class in Bradford. The nursery school was to be no mere defence against the evils of the slums, but to embody and realise a new philosophy of education based upon child nature. Margaret McMillan, with her keen realisation of the social and physical evils of the time, her intuitive understanding of the child, her vision and her faith, was indeed a prophetess, and for long had to struggle against indifference and opposition. The school at Deptford survived with difficulty the years of the war, and the death of Rachel McMillan brought it near to collapse ; but in the end Margaret McMillan's faith triumphed and in the Education Act of 1918 Mr. Fisher inserted a clause empowering Local Education Authorities to establish nursery schools. Hardly had this victory been won when the financial difficulties of 1921 annulled it. Slowly the nursery school gained favour : a joint circular by the Minister of Health and

the Minister of Education in 1930 urged the localities to proceed with them, but again a financial crisis in 1931 supervened and checked their growth. Although between 1930 and 1934 the number of such schools recognised by the Board doubled in number, they were still providing accommodation for only five thousand children. There are also several non-recognised nursery schools, but the total provision is lamentably small in comparison with the need.

Margaret McMillan was a searching critic of the existing system of education for young children. She condemned the large and costly buildings, the lack of fresh air, sunshine, and the facilities for personal cleanliness which marked the schools of the nineteenth century. She deplored the educational practice of keeping children in classrooms for five hours a day with a sequence of formal lessons. In their place she would provide a garden, with simple shelters for inclement weather, a kitchen where suitable food could be prepared, bathrooms which would invite children to enjoy the pleasures of cleanliness, lavatories built for little children where regular hygienic habits could be instilled, and simple beds where an afternoon rest, preferably in the open air, would become part of the normal routine. Instead of the school day of five hours the nursery day would last about nine hours. Instead of using teachers trained to give a course of formal instruction she would use superintendents trained to understand and to foster the little child. Instead of perpetuating the gulf between home and school she would make the nursery school a place where the mothers might come frequently and themselves learn the needs of healthy childhood. Almost she would echo Rousseau's paradox: "Reserve the usual practice and you will almost always do right";

but unlike Rousseau she would provide definite training for the young child.

Nursery
school
curri-
culum

It is unfortunate that the word "curriculum" inevitably suggests a body of knowledge that is to be taught to the child, for it is obvious that the nursery school and the infant school have worked out a different view. To them the curriculum is nothing less than the whole range of activities which make up the child's life. It was shown in Chapter III that these activities can be arranged in four groups, the physical, artistic, moral and intellectual, and this classification serves to remind us that the nursery school has aims far wider than the care of the child's health. The view that the nursery school is required only in slum areas is wrong; its purpose embraces all children who from one cause or another would miss the opportunities it provides.

The nursery school is designed for children between the ages of 2 and 5. It is obvious that it should be fairly near their homes, and, to decrease the dangers of infectious disease as well as to provide for individual oversight, it should be relatively small. The numbers of children usually range from fifty to a hundred. The visitor to such a school would probably notice, as the outstanding features, the training in cleanliness, the opportunities for free play, the arrangements for meals and the afternoon rest.

Each child has his own towel, toothbrush and comb, and recognises them, before he can read, by some distinguishing mark. Every morning, and before every meal, he must wash hands and face, clean his teeth and comb his hair, and it is not long before he takes delight in doing these things for himself and in seeking the approval of others for his skill. A pride in personal appearance is fostered, and older children are glad to help the younger in their struggles with water, soap

and towel. So, too, hygienic habits are instilled by regular visits to the lavatory.

This training is supplemented by the watchful care of superintendent, nurse and doctor. Records are kept of growth and development, and the superintendent is trained to recognise the onset of illness, and to isolate immediately any case of suspected infectious disease. The doctor examines the children frequently, and parents are advised of necessary treatment.

On fine days the children play in the garden ; in inclement weather they are gathered in the playroom and there is considerable freedom in the choice of occupation. These activities show educational play at its best : the senses of touch, smell and sound are evoked in the garden in a succession of concrete experiences which are enjoyed for their own sake ; the simple toys of the playroom bestow an increasing skill in manipulation. From Froebel's influence come the story-telling, singing, dancing and easy handwork that employ a group ; from Madame Montessori comes the didactic apparatus which enables the individual child to correct his own mistakes. But the English nursery school is neither Froebelian nor Montessorian : it uses the devices which prove most effective, and rightly rejects labels.

Another important educational activity is the training in language which goes on continuously. The child is spoken to, and the variety of new appeals that are made to him encourages him in the effort of distinguishing between them and naming them correctly. The gradual enlargement of vocabulary and mastery of sentence structure is a means of intellectual development which is never forced : the child picks out new aspects of his environment and learns the correct name,

but this acquisition proceeds at his natural rate.

Equally important is the social influence of the nursery school, both on the children themselves and on their homes and parents. The child of 2 plays alone, and is largely indifferent to the play of others—he may snatch a toy from another child or want to handle whatever strikes his fancy—but gradually he comes to enjoy simple group games and awaits his turn for a desirable toy. He learns to distinguish *meum* from *tuum*, and how to render simple service to others. This training is the natural outcome of family life, but it is often missed entirely when there are no brothers or sisters.

The service that the little child can render to others is most happily seen in the serving of meals. He learns how to lay the table, to carry food from the kitchen, to clear away and to wash dishes, activities which have an obvious value and in which he takes a keen interest. Where the school possesses pet animals these young children are said to look after them “with care and a sense of responsibility”.

This social training reaches out beyond the school and penetrates to the home. Accounts have been given of the nursery child who, at home, insists on washing his hands before meals, and on laying a cloth on the table. He knows how to use knife, fork and spoon in their appropriate place, and in the pride of his accomplishment he is anxious to show others how they should behave.

Co-operation
with the
home

Co-operation with the home is another marked feature of the nursery school. The child belongs to both, yet in the past the antagonism between them has been serious and prolonged, amounting, in the early days of compulsory education, to an open feud. Although this enmity has largely disappeared the

parents have still too little knowledge of and no active rights in the schools which their children attend ; they accept the view, on the whole, that the teachers' intentions are good and they are seldom encouraged to take an active part. But the nursery school has succeeded in winning the active co-operation of the mothers, and, in some cases, of the fathers too. Through the mothers' clubs, which meet regularly, not only is information on infant care made available, but the mothers also devise ways of helping the school. In some cases the fathers have also rendered active service : sometimes they have laid out a garden and kept it in order ; sometimes they have undertaken to paint the school, to make apparatus and toys. In the "emergency" nursery schools of recent years unemployed men have, under skilled guidance, erected the building and laid out the grounds.

The consequences of this co-operation are obvious, and the visitor to a nursery school cannot fail to notice the friendly and practical attitude of the mothers when they arrive in the morning and evening to bring and take away their children. It is claimed that the nursery school, far from diminishing the senses of parental responsibility, markedly increases it : the mothers learn there, in the most practical way, some of the simple lessons of mothercraft which nobody else has taught them.

Nursery schools in this country have not conformed to any single pattern. The Rachel McMillan school at Deptford is essentially a garden surrounded by a number of open-air shelters, in each of which there is accommodation for 35-40 children, the whole provision being for 260. In other cases the buildings are more elaborate and permanent. Usually the schools are small and accommodate from 40 to 60 children ; in

Types of
nursery
school
education

1919 the Board of Education suggested 40 as the ideal number, with 100 as the maximum. In Bradford an experiment is being tried of combined nursery and infant schools, for children from 2 to 7, and it is claimed that the break between nursery and infant schools is avoided. These differences are valuable, and it is important that no stereotyped form of organisation should fetter experiment. The nursery school has no traditions to impede it: the forces behind it differ profoundly from those which created the infant school a century and more ago, and it emphasises values which were not then discerned. The view of the Consultative Committee's Report,¹ that the "nursery school should be developed separately, and be left free to perfect its methods, and to fulfil its special purpose", is important.

In more recent years there has been a praiseworthy attempt to provide a "nursery class" for children under 5 in the infant schools. With the decline in the birth-rate many infant schools have unused rooms, and the success of the nursery school has persuaded many L.E.A.s to provide one or more nursery classes as an integral part of the school, and it seems likely that such provision will grow rapidly. Outwardly, there may seem to be little difference between the two types of organisation, and the children may spend the day in activities that have been already described. Usually no midday meal is provided, and the hours of attendance are the same as in the infant school, though there are cases where a midday meal is served.

The Report rightly suggested that the term nursery class should be restricted to those cases where the

¹ Report of the Consultative Committee on Infant and Nursery Schools, H.M.S.O., 1933, referred to as "the Report" in the remainder of this chapter.

essential principles of the nursery school are applied—the class should be reasonably small and under a specially qualified teacher ; and a separate playground, indoor sanitary accommodation, bathroom, provision for the afternoon rest and of furniture specially suited to young people, are necessary. The mere use of an empty room for children under 5 does not justify the use of the term nursery class.

The danger of the nursery class is that this essential provision is not always made, and a recent pamphlet from the Board of Education on Nursery Schools and Nursery Classes¹ does not allay the fear that the nursery class may, in its makeshift arrangements, lower the standards of the nursery school. The suggestion is there given that an ingenious teacher can get over material difficulties fairly easily, but no ingenuity can create a garden, or lower windows so far that little children can see through them, or provide a separate playground, or place lavatories and bathrooms where the teacher can exercise constant control. Some of the illustrations in the pamphlet show that the structural alterations have been successfully carried out ; others suggest that the most elementary needs have not been regarded.

There is another important principle at issue, and the statement in the Board's pamphlet that nursery schools " have as their primary object the physical and medical nurture of the debilitated child " is a confession that the writer has not realised the significance of the nursery school movement. Impressed as was Margaret McMillan with the importance of the physical side of the child's life, she was equally concerned with its spiritual development, and with the provision of an environment that would appeal to every side of its

¹ Board of Education Pamphlet No. 106. H.M.S.O., 1936.

nature. Her criticism of the nineteenth-century school was that it ignored the most important needs of the child, and the point at issue is whether the twentieth-century nursery class can meet them, or whether we should not start *de novo*, and build up a school free from the old traditions. It is a hard saying, but there is a risk that in making the nursery class an appendage to the infant school we are limiting the possibility of free experiment. That there are excellent nursery classes and mediocre nursery schools may be granted, but this admission does not alter the fact that the nursery school springs from a new conception of childhood, and is free from all suggestion of scholastic bias and formal teaching. It is important that nursery schools should be multiplied, and that they should not be confined to debilitated children. Fresh air, sunlight, quiet, play, a garden, flowers, birds, animals—these are the proper surroundings for all children, the vigorous as well as the debilitated.

Needs of
children
between
5 and 7
years

The infant school deals with children between the ages of 5 and 7 +, and as there is no sudden change in the child at the age of 5, the infant school should be, and is, influenced by the methods of the nursery school. Formerly, the infant school was often regarded merely as a place of preparation for later years, but it is more fully realised now that the years 5 to 7, with their particular needs, make a claim in their own right which the infant school must attempt to meet, without regard to equipment for the Standards.

The child of 5, whether he has been to a nursery school or not, has been busily investigating his surroundings in a free and unordered way, and has acquired simple ideas about many things. He can speak, and his vocabulary is rapidly growing. He can perform many bodily movements, some of them requiring

considerable skill, but the finer muscular adjustments still await development. He is interested in many things, though seldom in one thing for long, and he is for ever trying to imitate those older than himself, thus acquiring new experiences and skills. What he can already do, and what he shows he would like to do, are valuable hints to the teacher, but school exists to bring some order into the chaos, and to arrange experiences which will promote development in a more ordered, that is, a more economical way.

The infant school has changed radically from the time when reading, writing and counting were the chief constituents of the curriculum, yet the idea still survives in many directions that by the age of 7 the child must give evidence of a certain standard of attainment in the three R's. In many infant schools will still be found a detailed time-table of "lessons", and an analysed curriculum under many different labels. Yet in other schools the use of individual methods is accompanied by the recognition that the child travels at his own rate, and that uniformity of requirements inevitably begets mediocre standards of attainment, for the quick child is thwarted, and the slow child is harassed in an unsuccessful attempt to keep up. In the opposition of these two views lies the chief problem of the curriculum of the infant school.

Unfortunately, schooling has long been associated in the public mind with the acquisition of the three R's, and the efficiency of the school is often judged by the child's progress in them. The heads of the junior schools who receive their pupils at the age of 7+ are, no doubt, tempted to ask what the children know. The three R's can be quickly tested, and the scholars graded by the results, but this is no justifica-

tion for the view that they are the primary business of the infant school.

There are important reasons against such a view. The three R's may impose much eye-strain; they seem alien to the infant's need of active pursuits; experiments have shown that if their acquisition is deferred for two or three years the child quickly catches up with those who start early, overcoming easily the obstacles that are burdensome to younger children.

There is an intriguing sentence in the Report, and it is printed in italics to mark its importance: "The child should begin to learn the three R's when he wants to do so, whether he be three or six years of age". It is intriguing because it begins with a bold bid for freedom, and then limits such freedom by arbitrary ages. What virtue is there in the three and the six? Will four and eight do as well?

The Committee find some ground for their statement in recent inquiries in America which conclude that "it pays to postpone reading until a child has attained a mental age of six years and six months", and that "the minimum mental age at which arithmetic should be begun is six years five months, and the optimum mental age is seven years four months". The apparent precision of these statements is partly due to the fact that the ages are "mental" ages. In England we promote by chronological age, and the statement really means that there will be children of 7 and more and children of 6 and less who are, on this American view, just ready to begin to learn to read, and for whom arithmetic should be further postponed. In other words, some children will master reading and counting while they are in the infant school, and some should wait till later. The general conclusion would

be that for a majority of children in the infant school the formal teaching of the three R's would occupy little time.

At the same time it must be emphasised that there are pupils who, at an early age, pick up reading without difficulty : if they have books and cards and attractive printed material at their call, they will learn to separate and to recognise the symbols. But others may show for a long time no such interest : they do not discern any value or gain for themselves, and social experience has not yet revealed to them the importance of reading. Under such conditions the acquisition will be slow and laboured, a distasteful drudgery which may be for ever associated with it. For this reason the first part of the quotation that " the child should begin to learn the three R's when he wants to do so " is of supreme importance. Unfortunately the Report goes on to say that if a child begins at 6 he should " read with pleasure to himself any book suitable to his age by the time he leaves the infant school ". That some children will do this is certain ; that every child should be expected to do so is a denial of the principles which the Report seems to favour.

Writing should accompany reading, and is a particular development of the child's efforts at drawing which precede writing. Montessori has shown the advantage to the child of learning the shapes of letters as movements of the finger by tracing over sandpaper letters and repeating these movements in the sand tray. The kinaesthetic sense is brought to the aid of sight, and this muscular learning is applied with chalk or pencil on paper. Pen and ink are postponed to the junior school stage, when the transition from print writing to a cursive style is also achieved. The urge to write is fed by the desire to imitate : the letters

received and sent by older people are of interest to the child, and the postman's job seems an enviable one. The child, too, will want to write letters, and home circumstances may encourage him, but in any case the school will welcome the suggestion when it arises. Letters to the teacher, to friends, to absent members of the class, provide the occasion, and may serve as a continuous invitation to write.

The early stages of arithmetic should also arise naturally out of felt needs. The child runs small errands for his mother and handles small amounts of money. He plays games where some counting is done and simple scores are made. He is faced from time to time with the need for measurement. Such experience teaches him the value of simple arithmetic ; if " lessons " can make his counting more correct, his measurements more reliable and his calculations more efficient, then he will welcome them in moderation. But there is no need yet to formalise this quantitative experience : it is sufficient if the child encounters his concrete difficulties and learns how to solve them. If, while playing shop, he is the shopkeeper, he must give correct change or retire from his post for a time. He must " add " and " subtract " his small numbers correctly, and he may discover the labour-saving devices of multiplication and division. But the terrors of the seven-times and nine-times tables can be postponed or eliminated ; the multiplication tables are a useful summary after considerable experience, and their value is best realised if they are introduced when the child finds them of use.

In such an approach the starting-point is necessarily in the concrete, but the discovery of similarities and differences carries the child on beyond the perceptual level to simple ideas which are, in a degree, general and

abstract, and he learns how to reflect on experience. What power he will ultimately achieve in dealing with abstractions is not yet known, but he can use them from an early date, and some of the child's most original and spontaneous utterances express the fact that he has had some glimpse of their meaning. It has often been pointed out that the frequently quoted dictum "From the concrete to the abstract" should be reworded so as to express the interrelationship; it is more accurate to describe the child's experience as developing "from a greater degree of concreteness to a greater degree of abstractness". The Consultative Committee put the point in another way: "abstract numbers present no difficulties to children, while to label quantities in a sum adds nothing to their sense of reality".

The diminution of the time given to instruction in the three R's has been proceeding in the infant schools for some time, and the increasing use of individual methods has produced a situation which is not without its difficulties. The old expectation of a uniform standard of attainment still lingers, whereas the practice of the infant schools is steadily against its realisation. The time for cutting the knot is now due: the infant schools must enter fully into the position for which their work has been long preparing: they must accept the implications of their practice and declare that any uniform minimum of attainment is impossible.

This is not a policy of so-called "freedom". A child needs stimulus, help and guidance; he is eager to make new conquests, and the teacher's function is to guide his steps in such a way that the conquests are worth making and are an economical use of the powers he possesses. But the conquests must be his own, an outreaching from his experience and knowledge, a

development of his innate powers and of the life he lives outside the school. To quote once more the words of the Report, "the curriculum is to be thought of in terms of activity and experience rather than of knowledge to be acquired and facts to be stored".

Infant
school
curri-
culum

The curriculum is summarised in the Report under four heads :

- (a) Religious instruction.
- (b) Natural activities, including physical training, open-air life, rest and play.
- (c) Expression training, including speech, dancing and singing, handwork and drawing.
- (d) Formal instruction in the three R's.

The time given to religious instruction is governed by regulations which confine it usually to the first period of the day, leaving a minimum of two hours in the morning for other work, and a similar period of time in the afternoon. The Report recommends that in the first year of the infant school these four hours shall be divided more or less equally between (b) and (c), and in the second year between (b), (c) and (d), and deprecates any more detailed division of the timetable, except where, in large schools, hall and playground must be reserved at special times for different classes. The same freedom that is thus given for any particular occupation is also claimed for the length of lessons : the best guide for bringing the lesson to an end is the children's loss of interest and the signs of fatigue.

It might be argued that the activities grouped under (c) deserve more time both in the first and second year, and that the importance of (d) is still overrated, but the teacher must decide details of this kind. The

general principle is of first-rate importance and marks a complete revolution from the earlier practice of a detailed time-table divided into a large number of very brief lesson periods, begun or ended with clockwork rigidity. Even the young child can show a surprising continuity of effort in his occupations, and such continuity is one of the ways to mental growth.

It is unnecessary in this book to survey in any detail the varied activities and occupations that are grouped above under (*b*) and (*c*), but some of their leading aspects may be described briefly.

Physical well-being is obviously of first importance. More than four-fifths of the nation's children do not attend school till the age of 5, and the annual reports of the Chief Medical Officer have repeatedly shown the damage that has been caused by neglect. Exercise in the open air, training in hygienic habits or personal cleanliness, plenty of space for movement both inside the school or in the playground, and opportunities for rest are first essentials. Running, jumping and climbing in the playground, exercises in correct breathing, and instruction in correct postures of sitting and standing lead up to the acquisition of a greater and greater degree of control: dancing, with its rhythmical patterns, will teach the co-ordination of bodily movements; the Montessori "silence game" and other devices will bring to the senses an increasing mastery of control.

The importance of play needs no emphasis: it is an all-absorbing activity in which initiative, forethought, control and skill can be exercised in full measure. The child's spontaneous play turns to the satisfaction of basic needs: he plays at hunting, grows plants, builds rude shelters, dresses himself or his dolls in whatever material comes to hand, and through all these activities,

enjoyed for their own sake, he constantly extends the range of his interests.

To the young child the world is full of wonders and most of them are out of doors. The schoolroom, even if it is lined with pictures and museum pieces, can never compete in interest with the natural sights and sounds without. If the city child could see sun and cloud, hill and valley, field and wood, stream and pond, bird and animal, he would acquire mental images for which there is no satisfactory substitute. The school can supply only a few of these wonders, and without a garden it is badly equipped. The city park, the river and the more distant woods must also be visited as opportunity serves.

Nor is the world of man less entrancing. The lamplighter, for whom R. L. S. waited in the twilight, like many other picturesque figures, has almost disappeared, but the postman, the policeman, the bus driver, the engine driver, the milkman, and a host of other workers remain and exert their fascination. The child delights in pretending that he is one or other of them in turn, and will prepare the materials which will assist him in making the imitation more satisfying.

From these two great divisions—nature and man—spring the school “subjects” of later years, but the child is fortunate if he knows them first in a more lively setting. In so far as he sows seeds, picks flowers and observes the seasons, he is a scientist; in so far as he plays at being a policeman or parson or bus driver he is dealing with material from which history, economics and sociology will emerge.

This variety of concrete experience is also the necessary forerunner of reading. Books are no substitute for experience, and while every normal child gains from life experience which will make some books

intelligible, the first intellectual task of the school is to provide impressions in as wide a field as possible. And with these impressions must be associated the spoken word. The spontaneity and vigour of the child's speech are often more pronounced outside than inside the school, for the latter can exert repression in two ways : it can check " talking " by rigid rules, and it can impose a pedantic correctness which confuses the child's familiar utterances almost as would a second language. The interested child must talk and express himself, and although the business of the school may sometimes require silence, talking is as much a necessity as movement. The correction of errors requires patience and caution in the teacher : the child should not be stopped in his utterances because he makes a mistake ; the teacher must note the most frequent errors and deal with them systematically at the proper time. The child will talk eagerly of his possessions, his activities and his discoveries, and his vocabulary and mastery of arrangement will grow rapidly. He will ask questions and this activity is of more value to him than answering them.

Indistinct and slovenly speech can be improved by frequent repetition of rhymes and jingles, and specially chosen " tongue twisters " will provide practice with difficult consonants. The slower *tempo* of verse gives a value to sounds which are often slurred over in ordinary speech, and the fun which every child derives from mastering such familiar puzzles as

She sells sea shells by the sea-shore
and

Peter Piper picked a peck of pickled pepper
is the least part of their value.

In recent years, too, has come the rediscovery of

the importance of rhythm. All life is rhythmic : we instinctively seek to group a succession of sounds or a number of objects into a pattern, for the grouping gives us more power over phenomena and consequently greater satisfaction. The simpler rhythms of music are heard by the child and he reacts through bodily movements. In marching, the monotony of equal steps can be removed by accenting one at regular intervals, and in skipping various rhythms are attempted. The infant school feeds this rhythmic delight in the child by using the traditional nursery rhymes, songs and games, and also the child's natural love of acting.

The activity of the child seeks an outlet, too, in manipulating objects, and handwork of various kinds has now an important place. The development of touch, the experimentation with materials of different plasticity and strength, the urge to construct things which will give reality to his world of ideas, are important elements in the child's training, and the radical suggestion in the Report that he should be allowed to make what he likes, how he likes and, within reason, when he likes, rather than in set lessons, is an excellent one. The Froebelian "occupations" lacked both variety of material and freedom of choice, and failed to give zest to the child. The same freedom should be allowed in drawing : the child will long be satisfied in trying to draw from memory the things that interest him, and in trying to portray the world as he knows it.

The modern emphasis on activity is an enormous gain in the education of the child, but it is necessary to add that activity is tiring. The ease with which nursery-school children accept the afternoon sleep is some proof of its need, and although this diminishes after the age of 5 there are many children who get

insufficient sleep at night. If they require an afternoon sleep after the age of 5 they should be allowed to have it. And there should be rest-periods also during the day, when noise is made to cease for a time. The story-telling period gives an opportunity for physical relaxation, and the teacher with a good voice, skill in narration, and a happy choice of story, can hold her little ones in spell. Fairy-tales, folk-tales, fables, animal stories, tales of children, selected from all times and all lands, should be used to fill the child's mind with ideas of beauty, devotion, courage and all the virtues. In this setting should come the Gospel story, and stories selected from the Old Testament and other religious books which show that service to God and man may take many forms. There is no literature in the world which can offer so much to the child as our own, yet the school of the past, with its cheap "readers" and its paucity of material, left this largely unused, and denied to the child a part of its birthright.

These reforms as they are being worked out in the infant schools are full of promise. Froebel's metaphor of the child as a plant growing in a garden implied that growth could be best fostered by providing the environment which the nature of the plant required, and that the laws of that growth must be recognised. This view included the principle that learning depends on the child's own effort and activity, and Montessori showed how the child can teach himself, by providing graded apparatus which reveals to him his errors and leads him by self-correction to an ever-increasing mastery. From mass-teaching with its constant repressions, to individual learning with its sense of freedom, the way was clear, and infant school methods and curricula have been largely transformed. The obstacle of the "almighty wall" still hinders teachers

in many places, and the buildings and furniture of an earlier day still exist. In time we shall cease to build permanent structures which so rapidly grow out of date yet which are too costly to replace.

There is no finality in any system or in any name, and the infant school must still experiment and learn the way. The task of the teacher is more difficult than before : to apply a time-table and to give prepared lessons is less difficult ; but to understand the development of young children, to foresee their changing needs and to supply the right kind of help at the proper time—and to do this for a large number of children who are developing at different rates, and whose needs are always individual and particular—is a task which demands not only the everlasting virtues of patience, sympathy and insight, but also the intellectual power to apply general rules to constantly changing circumstances.

CHAPTER VIII

THE JUNIOR SCHOOL

THE junior school caters for children between the ages of 7+ and 11+. Its separate classification in the field of elementary education dates from the Hadow Report of 1926, and in the reorganised areas it is now a separate institution. Needs of children between 7+ and 11+

The years 7 to 11 have long been regarded as an important period in the system of popular education, and for a large majority of children only a generation ago the age of 11 marked the close of their schooling. There were attempts to extend the leaving age at the close of the nineteenth and the beginning of the present century ; by the Act of 1918 it was raised to 14 without exemptions of any kind, though it was not until 1922 that uniformity was achieved.

Experience soon showed that the retention of large numbers up to the age of 14 created a new problem. A combination of circumstances pointed to the age of 11 as a convenient point of division, and the years 7 to 11 came therefore to be distinguished as the second period of primary education.

The definition of the junior school in terms of age has shown more clearly what it should attempt and what its function is in the national system. This function is derived from the needs and possibilities of the scholars, and the fact that they are a relatively homogeneous group simplifies the problem. It must, of course, relate its activities to the infant school which precedes it, and it must keep in mind the post-primary

stage which follows it, but these must not be allowed to dominate its curriculum. The ascertained requirements, interests and powers of the children themselves must be its criterion, and in satisfying them it will also best serve later needs. The present dominance of the scholarship examination at the age of 11 is the chief obstacle in the way: it determines too forcefully the curriculum of the junior school and checks experiment.

The importance of the period for physical and mental development has already been shown. The senses are acquiring finer powers of discrimination and the muscles a greater degree of co-ordination; these processes take time and exercises should be graded in such a way as to ensure greater and greater mastery without strain. This principle was generally ignored in earlier days when quite young children were required to draw with fine pencils and to sew with fine needles. But the child now makes use of blackboard, chalk and crayon before he uses pencil and fine brush; and he is taught to plait and weave before a needle is used. The occupations of the junior school should employ eyes, tongue and fingers as much as possible; it is with the aid of these activities that the power of attention is best developed.

Memory power is not unduly strong at this age. In the earlier stage, up to the age of 8 or 9, the child takes some pleasure in mechanical repetition and does not show any distaste for repeating continuously the multiplication and other tables. After 9 he begins to show more interest in logical memory. But in any case a child will memorise most easily those matters which interest him and serve his purposes. To memorise useless material for the sake of "exercising the memory" has led to much waste of time. There

is so much of value that can be memorised in these years that a careful selection is important.

The dominance of visual imagery suggests the importance of assisting the child to form accurate and clear images ; first-hand observation of objects, the use of pictures, and the recall and expression of experience will help the formation of images. Reproductive imagination can be a source of vivid enjoyment as well as an intellectual exercise ; this should be supplemented by the more difficult constructive imagination which combines old images into new structures.

It is difficult for an adult to realise how limited are the available images of some children, even of things which are familiar. Hence instruction must still be closely related to experience and to the particular environment, by direct contacts, by conversation about the things near at hand, and by questions about what has been said and done. The tool of later intellectual structure is language, but there must be first a solid foundation of experience which is attached to words.

The value of school instruction is largely determined by the home environment, and there is a close connection between educational backwardness and poverty. In different parts of London, for example, the percentage incidence of retardation varies between districts as one to twenty. A poor physique usually results in lack of mental energy, and although actual hunger and excessive out-of-school employment have been largely removed, children still live in slums and frequently suffer from insufficient food and sleep. The effects of childish ailments may also continue for many years and impair mental vitality. The worst cases are sometimes removed for a time to an open-air school, where rest, suitable food and fresh air often produce

quite miraculous changes in three to six months, but many children carry a heavy burden throughout their school life.

Many children suffer also from the intellectual poverty of the home: they know nothing of seaside or country, they have no books, and language is an inaccurate and inadequate tool. Of children of 8 years of age in the poorer parts of London a recent inquiry showed that 23 per cent had never seen a field of grass, 64 per cent had never been in a train and 98 per cent had never seen the sea. Although it is possible to exaggerate the effects of such poverty of experience—for children in all places acquire strange and wonderful knowledge—it is obvious that much of the traditional instruction in school and in school books can arouse little response, and that the principle of starting with the child's experience would profoundly change the curriculum for such children. The example of a large northern industrial town in maintaining a permanent school camp in a large disused building situated in a beautiful valley with access to the moors, to which, every week between Easter and September, a party of children go with their teachers, is one that deserves more imitators. The urban child is coming more and more to rely on the cinema, and it is a means of enlarging his experience in worlds from which he is excluded, but it will remain an unsatisfactory form of instruction until the teachers are allowed to choose the films and to bring them into relation with the school activities. There is no need to install projectors in every school; the existing halls could be used during the daytime, and experiments on these lines have been successfully tried in several places.

In aesthetic development the child is long satisfied with elementary and simple appeals. At the sensory

level he is attracted by sounds, colours, shapes and movements ; next he finds pleasure in arranging these sensations into patterns, as in dancing, drawing, craft-work and many kinds of games ; before long he will want to decorate his possessions. These practical activities help him to appreciate the artistic achievements of others, but he must serve a long apprenticeship in imitation and variation before his own taste and sensibility are much developed. There has been much invention during recent years of exercises which help the child : he is encouraged to visualise the stories he reads, to discover the rhythm of poetry read aloud to him, to draw and paint the images in his mind, and these exercises train him for later appreciation in its fuller sense. The child's own efforts at expression are of chief value, but the effect of seeing and hearing beautiful things is also important.

The outstanding fact of the child's interests during this junior stage is that they are objective and specific. The interest of making and doing has all the characteristics of an instinctive urge, and in spite of recent changes, it has not yet received full recognition as an educational instrument. The delights of singing, acting, dancing, and reciting verse, as well as of drawing and handwork, come from this innate urge to be active.

During this period boys and girls begin to reveal their differences. At 6 or 7, girls seem slightly in advance of boys ; at about 10, boys advance more rapidly ; with the onset of puberty girls again take the lead. Girls inherit more strongly the maternal, affectionate and submissive instincts ; boys the hunting, fighting and assertive instincts. In their spontaneous reading girls are more attracted to poetry and sentimental writing than boys, whose choice becomes more and more realistic. Teachers generally agree that boys

show more independence of thought, girls more power of sustained effort and greater facility of expression in writing. Girls show more patient and persevering attention to details and jump intuitively to conclusions, while boys are more critical and logical. Views differ on the question of co-education, and the general opinion seems to be that the curriculum for girls and boys under 11 need show little differentiation except in physical training and perhaps in certain forms of handwork.

Most of the facts treated so far illustrate clearly the truth that the teacher needs above all else a knowledge of the particular children in his charge, a knowledge that extends to their lives outside the school. This principle has wide applications, and in fact alters the traditional view of the teacher's function. It was Charles Lamb's reproach against the schoolmaster that he must be always instructing somebody, but the reproach should not be possible against the modern teacher, who has so much to do besides instruct. The knowledge he acquires about his pupils must be recorded systematically, or much of it will be lost. If continuity of treatment is to be secured between infant, junior and post-primary school, the child's record must accompany him on his way, and teachers must devise a means of closer co-operation. The staffs of different types of school should confer, and provision should be made for visits to one another. Unfortunately, there is an increasing isolation of different grades of teachers, and the separation of schools under the plan of reorganisation will further increase this isolation unless means are found of promoting co-operation with some degree of interchange.

Differ-
ences of
ability

In a large school it is possible, by having parallel classes, to grade pupils so that the larger differences of

mental endowment are catered for. It has already been shown that transference from one school to another on an age basis results in wide differences of capacity, and that these differences increase with age. In some schools three "streams" are separated, and the curriculum for the A stream includes a far wider range than that for the slow moving and retarded C stream, who need simpler tasks and a longer time for their mastery. Since retardation is sometimes not due to permanent defects its causes must be sought out and remedies applied.

Inquiries have shown that retardation has a much wider range than was thought. Apart from idiocy and imbecility there are children who at 10 years have a mental age of 5, just as there are a few children who have a mental age of 15. These extremes are, of course, rarely found, but there is a class of definitely retarded children whose number reaches about 10 per cent of the whole. Their frequency in any school varies. Probably about half of them are retarded by illness and absence from school; for them special treatment may be successful; the others are innately dull, and their handicap is likely to continue. The suggestion that backwardness may also be "school-made" is startling enough, but it was made by witnesses before the Consultative Committee,¹ and its possibility should be regarded by teachers as a professional challenge.

Besides the large junior school, where parallel classes are possible, there are two other types: the school of average size where the children of each age group can be contained in one class, and the small rural school containing children from 5 to 11 years of age

¹ Report of the Consultative Committee on the Primary School, H.M.S.O., 1931, referred to as "the Report" in the remainder of this chapter.

under, perhaps, one head teacher and one assistant. In both cases the retarded child is a difficulty, and the problem must be met by individual or by group teaching. In arithmetic and composition individual work can be organised; in history and geography group work is possible, while in music, drill and some other subjects the children can be taught in larger units. The monitorial device of allowing the older children to help the younger is sometimes possible, and, in moderation, valuable.

Junior
school
curri-
culum

The function of the junior school is to satisfy the physical, moral, social and intellectual needs of childhood between the ages of 7 and 11, and the curriculum is inadequately conceived when it is thought of as a body of knowledge to be acquired. It is far more. It is a planned sequence of activities which, indeed, yield knowledge, but which primarily aim at the development of the child's powers, so that he may use them in a more orderly way, bringing vague impulse, unchecked emotion, loosely woven image and uncritical thinking into greater control within an increasingly unified personality.

The analytical time-table, with its minute divisions, is still to be avoided in this stage; the school pursuits can be grouped under the five headings already discussed—physical, artistic, human, scientific and linguistic. In the school day there are about five hours of organised work, and the usual practice is to devote the first forty minutes or so to religious instruction, leaving about four and a quarter hours for the five branches. This time will be allocated differently in different schools, and the only general principle to be observed is that each branch should get a reasonable amount of time so that a fair balance is maintained. In one school the artistic and manual pursuits may be most

favoured, and in another the linguistic: both the scholars' needs and the teachers' values will affect the scheme adopted. The five branches may be discussed under separate headings.

Much that has already been said in the preceding chapter is relevant here, for the indirect training that proceeds in a hygienic school is far more important than lessons on hygiene. Well-lighted and well-ventilated classrooms, lavatories, cloakrooms and drying rooms, and adequate playgrounds are essential, and the deficiencies in some of the old schools are still scandalous. Time will be required to secure cleanliness of hands, face, hair and teeth, and there must be opportunities for exercise in the open air and for rest when necessary. The daily care of the classroom and cupboards, and a regular warfare against untidiness and litter in school and playground should be a normal part of procedure. Where a midday meal is served, or where children bring their own food to school, the opportunity for inculcating hygienic habits is extended.

Habits are specific and are set going by their appropriate stimulus, but the aim of the school should be to develop a sentiment for cleanliness, tidiness and physical well-being not only in but also out of school. An untidy playground, or street, or home will undo the good effects of school training, and opportunity should be taken to show the child that his responsibility extends to them. The vandalism of plucking wild flowers, the careless scattering of litter over the countryside and in town streets are matters in which a child can be interested and his services enlisted. Such teaching is informal and incidental, but it is of first importance.

The more formal physical education suited to the ages of children in junior schools has been worked out

Physical
pursuits

in recent years by the Board of Education, and the official syllabus has steadily moved from a mechanical and rigid system to one which aims at the well-balanced development of each child, demanding adaptation by the teacher to the capacity and needs of his particular class. Besides the particular exercises designed to develop various functions of the body much use is made of organised games and of free play. No uniform system is imposed: the modern syllabus suggests varied activities which children find pleasure in doing, and which promote a healthy all-round development.

Among recent developments in physical education is the rediscovery of the value of dancing, and especially of the traditional English dances with their simple grace and patterns, activities which give aesthetic pleasure through their rhythm and harmony, and impart a natural ease of posture and movement to growing bodies. Linked with drama, which also gives opportunities for expression in movement, it is the means of a physical culture which goes far beyond physical efficiency, and unites with deep springs of human conduct. Through this means we are returning to a recognition of values discerned long ago by the Greeks.

Artistic
and con-
structive
pursuits

The modern emphasis on artistic and creative activities in school is largely due to two causes: it is found that such activities make a ready appeal to the child's interest, and that they promote intellectual development in a natural way. They are concrete and therefore easily comprehensible; they give definiteness and accuracy to words and ideas which would otherwise be vague and loosely understood; they satisfy the natural desire of children to be doing something with hands and fingers; and they promote the child's quest for beauty.

In addition to their own values art and crafts have an ancillary value, and can be used to assist many other classroom occupations. The question, formerly much debated, as to whether handwork is a "subject" or a "method" is beside the point; it is both in the ordinary meanings of these terms. In its own rights it can claim independence as a subject and demand a practical room and proper equipment for its pursuit; but this does not prevent the teacher of other subjects from using handwork to illustrate his own topics and to drive home his points. For this reason every classroom needs tables and simple tools as a part of its equipment.

The function of art in the junior school is twofold: it aims at bestowing sufficient skill to enable the child to express his ideas, and it lays the foundations for aesthetic appreciation. When the child enters the primary school he is accustomed to draw, that is, to express his spontaneous interests in graphic forms. At the outset he is not much concerned in the accuracy of his representation, though the desire to make his drawings intelligible to others soon inclines him to be more realistic. Unless he gets the right kind of help at this point he may grow discouraged, and cease to draw except when the time-table requires him to do so.

The child requires sufficient help to surmount obstacles, but the desire to draw must still come from the longing to express his own world. If too elaborate a technique is imposed upon him his spontaneity will be thwarted: one conquest at a time is enough. He still wants to draw the people, flowers and animals about him, not the exercises which a logical technique would devise. Both memory drawing and careful observation of the things about him should be encouraged, as well as the use of different media, through

which he may gain insight into the limitations which materials impose. Experiments in colour, gained through paints, pastels, coloured paper and threads, and the creation of patterns by repetition and variations of a simple theme with due regard to spacing, order, balance and composition, will provide a large field of work leading gradually to design.

Opportunity should also be provided for the expression of ideas gained from reading and oral lessons. While literary subjects provide materials for imaginative drawing, nature study demands more accurate record.

The choice of manual occupations is exceedingly wide : basketry, raffia-work, rug-making, leather-craft, weaving, bookbinding, needlework and domestic crafts, and light woodwork have all been successfully taught in the primary school. The illustrative value of paper folding and cutting and of cardboard modelling is well known.

While it is obvious that there will be neither time nor equipment in any one school for all these occupations, two principles, which at first sight seem to be contradictory, should be kept in mind. The child should master at least one craft sufficiently to be able to express his own ideas in it ; only so will he learn the true satisfaction of craftsmanship, the sense of mastery over material which comes to the artist. On the other hand, a variety of crafts gives a wider knowledge of materials and processes. There is time, in a four-years course, to pay some respect to both principles : to start with such variety as the school can offer, and to end with a fair mastery of the one that proves most attractive.

Handwork is not merely a relief from verbal methods, it is a way of learning. It should derive its scope from the great crafts, and should offer worthy

occupation. Paper folding and cardboard modelling have a limited place but their proper outcome is book-binding, approached through the simpler stages of making calendars, blotters and portfolios until the child is skilful enough to bind a real book. So, too, the simple weaving of wool and raffia in the infant school leads gradually to the use of small weaving-frames and table-looms, and in time to the essentials of the weaver's craft. The plasticene of the infant school gives way to modelling in clay, to the making of coiled pottery and at last to the use of the potter's wheel. These crafts are rich in human interest, and the child can realise their utility.

Wood and metal craft are usually deferred to the post-primary stage, partly because they require sharp and difficult tools, partly because they need special rooms and expensive equipment. But some schools introduce them before 11, making use of prepared wood and light sheet-metal and wire. The use of vice, hammer, screw-driver, light saw, file, pincers and pliers appeals to the boy ; he feels that he is using the tools of the working world and the range of objects he can make is unlimited. The demand for more accurate measurement is also of value.

To say that every school should have a garden would be a reproach to many town schools, yet there is nothing extravagant in the claim. Gardens have been advocated on many grounds : for teaching young people how to respect communal property (David Stow a century ago grew fruit trees in the playground for this purpose) and also for teaching a love of the beautiful. A flower-bed for the youngest pupils, crops of salad plants, and, later, a few vegetables would provide opportunity for much useful knowledge of gardening craft, and also provide illustrative material for indoor lessons. Where

there is sufficient space a more elaborate course could be undertaken.

In the case of girls needlecraft has retained its place in the school even when other occupations were forced out. The same general principles hold. Girls will show an increasing desire to make real garments, and will learn the elements of design, of colour-matching and the decorative effect of special stitches as they advance in manipulative skill and as a knowledge of fabrics is acquired.

The Report suggests that art and handicraft should have three or four hours a week, but in the view of many this allowance is too small. A daily period should be allotted, and if the period is to be worth while it will require an hour and more for its practice ; a total of five or six hours a week is not excessive.

It should be added that handwriting is a fine art and should be included in the group. The pen is a fine instrument, and the postponement of its use until the age of 8 or 9 is justifiable : its earlier use imposes much laborious practice. The transition from script writing in the infant school to cursive writing in the junior school should take place gradually, as should the change from pencil to ink. Some teachers regard 9 as a suitable age for the latter and 10 for the former. Practice in artistic lettering and manuscript writing should be given at the time the child is practising cursive writing, and his choice of style should be influenced by what attracts him in such models, provided that legibility and speed do not suffer.

The Hu-
manities

Literature, history, human geography and biblical knowledge offer a unified story of man's life, aspirations and efforts ; hence their rigid separation in the junior school is an error. When we think of the vast field of human story—whether in biblical or classical narra-

tives, in old romances, in man's adventures as explorer, traveller, inventor, conqueror, scholar, artist and workman—and of the pitifully meagre fare which has been offered in school lessons and text-books, it is easy to realise why not only a lack of interest in but a positive distaste for such material has been a frequent result.

In selecting from this wide range the child's interest in practical achievement should be given satisfaction. At the beginning of the primary school course he is beginning to ask "Is it true?", thus separating history from legend, and this desire to hear the story of real happenings is the justification for history. At the same time his sense of past time is vague: he remembers "last week" and "last year", but his experience is too meagre to carry any plan of history, and he has yet to build up a conception of continuity. The time sense is an intellectual structure grafted on to experience, and to the child's few memories of a near past must be added, imaginatively, the more remote experiences of his parents, and before them of his grandparents. In these early stages the time-honoured beginning of "Long, long ago" must serve, and more exact chronology must be used gradually.

Important as is the "picture" which history in the junior school must offer, its elements can be orderly and not a mere jumble of anecdotes. The actual content will vary from school to school: in some places it may go back to the life of primitive man, in others to the ancient Egyptian and Babylonian civilisations, in others only to ancient Britain. The course should not be confined to British History, for that would deprive the child of many of the best stories.

Such material is probably best arranged as biography, but the individuals selected should together make up a balanced picture. This is not easy, for the

text-books tell more of king, priest and warrior, whereas explorer, inventor, merchant, craftsman and labourer moved in events which are often nearer to the experience of the child. While Alexander and Charlemagne, Cœur de Lion and the Black Prince may be known, Marco Polo and da Gama, Gutenberg and Caxton, Wyclif and Luther, Telford and Stephenson, and many humbler folk who thronged market-place and high road through the centuries, are not less important.

With this story of human achievement literature and geography are closely associated. Cœur de Lion is made more vivid to us through *Ivanhoe*, and his story takes us to foreign lands. Chaucer's *Prologue* is a picture of fourteenth-century England which no later historian could have constructed so vividly. The historical romance should be used, and if modern children find *Ivanhoe* dull there are parts of it that are better than many oral lessons, and there are modern writers of historical fiction who can satisfy the reader's desire to get to the story quickly. A historical novel should not be read in school, chapter by chapter, week by week. Once the story has gripped the reader he should be encouraged to proceed at the best speed he can muster.

With the abandonment of the traditional "subject" curriculum, at any rate until there is some preparation for the subjects of the post-primary stage in the fourth year, the work of the primary stage might be thought of under some such general phrase as "Exploring the World". Starting from the limited environment of the child's life, the teacher seeks to extend it imaginatively to times and places beyond the range of sense, and it is through a clarified experience of the here and now that the remote in time and space is to be understood.

From an understanding of a simple plan of classroom and playground the representation of space in

the neighbourhood beyond can be made, and conventional signs may be learnt so that a map of the district may be made and read. Direction, distance and configuration may be represented in various ways, and by drawing to scale the child may be led to realise the value and meaning of a map.

To extend the child's knowledge to other countries by stories of the people and their lives and occupations is to prepare him for the later separation of human geography, but at first it hardly deserves the name. Analogous to the "Long, long ago" of time is the "Far away over there" of space, and pointing precedes the names of the compass points. By the end of the primary course the child should know many names and the position of the chief geographical landmarks, not learned as memory exercises, but in association with the life and activities of the people, and with events of the past. The interrelation of physical features with human occupations and events will be a constant experience, and the child will become accustomed to interweaving historical events and geographical settings.

The dominance of Arithmetic in the junior school is an error of long standing; and both in the time devoted to it and in its isolation it has been allowed to assume a false importance. The time is long overdue for reducing it in amount, and using the time so saved for elementary geometry. Difficult and unreal "problems" and seldom-used weights and measures should be excluded. It is only in schools that inches are "reduced" to miles, furlongs, chains, yards, feet and inches, and that the number of square feet of paper required to cover the walls of a room is calculated; in real life people work either by approximations, or they use convenient tables.

Mathe-
matics
and
science

Systems of notation, vulgar and decimal fractions, the commonly used weights and measures, and the applications of addition, subtraction, multiplication and division will cover the needs of the child at this stage. Quickness and accuracy in working the fundamental processes, especially orally, should replace the laborious and unnecessary demands of the text-book. It may be helpful for the child to memorise the multiplication tables by monotonous repetition, but he must also be quick in using any part of them. The answer to "7 nines" should emerge at once without repeating the table, and the tables should be practised with every possible variation. Arithmetic is for daily use, where speed and accuracy are essential. The use of such devices as "table" cards and Curtis Test Cards, which provide a graded series of exercises with a time-limit, so that the pupil can compete against his own performances, are invaluable, and provide a very efficient and at the same time interesting method of practice.

Arithmetic has other values : it offers an ideal of orderly thinking, whereby, step by step, the elements of the problem can be made to yield the one correct answer. In written work, therefore, the clear setting out of the sum is of great importance. For example, the Report advocates the algebraical arrangement in multiplication : .

$$\begin{array}{r}
 3042 \\
 241 \\
 \hline
 608400 \\
 121680 \\
 3042 \\
 \hline
 733122
 \end{array}$$

Here the first line gives a first approximation of the result, and each subsequent line brings the approximation nearer. In this way the child may be trained to think of the answer first in round numbers : 200×3000 is 600,000, and 40 times 3000 is 120,000 ; therefore the final result will be something more than 720,000.

It is by intelligent anticipation of this kind that the pupil learns to think his way through to the correct answer, and to avoid the ridiculously wrong answers which show that he has no understanding of the meaning of the figures. For the same reason he should be taught how to check his calculations.

In teaching simple operations with money, shape, size and weight, the beginning must be in the concrete, and the work must be practical. The school "shop" is a useful play-way device for teaching money operations on a simple scale, and the use of simple geometrical figures yields clearer concepts of area and volume, as well as being a foundation for later work. Easy applications to field work should also be attempted.

Practical measurements of objects in the classroom, in the playground and in the street show the need for varying the unit of length from inch to foot or yard or mile. So, too, with weight, area, volume and time. While measurements are constantly converted from one unit to another, it is seldom that they are changed in real transactions by more than one or two stages, *e.g.* yards to feet or inches, tons to cwts. and quarters ; and the long exercises in school which set out answers in tons, cwts., quarters, pounds and ounces are unreal. Coal is bought by the ton or cwt., but pounds and ounces are ignored ; bacon is bought by the pound, and the additional ounces are paid for. Practical convenience determines the matter : if coal is £2 a ton, a pound costs less than $\frac{1}{4}$ d. ; if bacon is 1s. 4d.

a pound, an ounce costs 1d., and few shopkeepers would venture further than reckoning in ounces.

Time could also be saved in teaching fractions by avoiding the use of large denominators. The complaint of the senior school that children of 11 cannot measure accurately a piece of wood involving quarters or eighths of an inch is a commentary on the practice of manipulating enormously complex fractions on paper and omitting simpler but more useful skills. For halves and quarters are familiar enough to the young child in daily experience, but he needs regular practice in making accurate measurements with his ruler. The extension of this practical work to tenths of an inch introduces him easily to decimal fractions, and their addition and subtraction involves no new problem.

Where fractional processes simplify calculation they should be used. Multiplication and division by 25 and its multiples should be made familiar. The expression of a sum like £3 : 7 : 6 as £3 $\frac{7}{4}$ or £3.375 will often shorten a calculation. The decimalisation of money is important both for its use in commerce and for the opportunity it gives to clarify the meaning of a sum of money "to the nearest penny".

The chief obstacle in the way of a reformed course of arithmetic in the junior school is the scholarship examination at the end of it and the puzzling problems that are set, often on traditional lines. Until this examination is abolished or modified the junior school must be hampered in its work, and it can do but little to alleviate the evil. The course outlined above is well within the powers of the average pupil; the more gifted can cover it in a shorter time and spend the last year in preparing more directly for the test. But until there is a clear determination that the nine-tenths

who cannot win a scholarship must not be sacrificed to the one-tenth who may, the curriculum of the junior school will retain some of its absurdities.

Science in the junior school is usually indicated by the term "Nature Study", which covers a wide range of topics. Its best laboratory is the garden, where not only vegetables for cropping may be grown, but where a succession of flowers may be obtained. A bird-bath, nesting-boxes, a sundial, an aquarium, a weather-cock and a rain-gauge are among the things which can be made or fitted up by the pupils themselves, and afford means of study. For the term Nature should include not only the plant and animal life of the district, but also the great elemental forces of wind and rain, river and lake, heat and cold, and the influence of such forces on man, as well as man's devices to gain control over them. There should be no divisions in this great wonderland of science, and the time for a detailed study of any separate science has not arrived.

Ideally, as much of the work as possible should be done in the open air, but in some urban districts, except where there is a park at hand, this will be difficult and will entail school excursions. Unless there is some contact with Nature in its manifold variety and its seasonal changes, classroom instruction is in danger of formality and pedantry. To see forty or fifty pupils handed a flower which the teacher has collected, and then asked to examine it, to count its petals and describe their shape and arrangement, proceeding step by step in a search which quickly loses its interest, is to make one wonder why these young active pupils are doomed so often to a form of "Nature Study" which emphasises so much detail. To watch things grow in the garden is much more interesting.

Animal life may be more easily observed in towns.

The school may have a small aquarium, keep a few pets, attract birds to the garden, rear butterflies, moths and insects, and with a Nature diary, kept either by individuals or by the whole class, the observations may be recorded systematically.

Man's ingenuity is shown in his contrivances to subdue Nature, and the child is interested in the work done by tools and inventions, not so much because they illustrate scientific laws but because of their utility. There is no end to the devices used in the world—magnets and compasses, telescopes and magnifying-glasses, siphons and pumps, periscopes and cameras, electric lights and bells and other apparatus. Home, school, street and workshop present an array of objects which depend on scientific principles. The first interest is in what these devices actually achieve, and the second in how they do it; the curiosity thus stimulated is the seed of later scientific inquiries which seek to know why, and to organise knowledge in the more exact way of the sciences. The phenomena which the children see in their daily life should guide the teacher in his selection; in many schools the children themselves will be able to supply some of the material.

Language Oral and written language is the chief tool of mental growth, the instrument of other acquisitions, and it obviously belongs to each of the four branches discussed. But the skills involved in the use of language require much practice, and the junior school must lay the foundations. Included under this term are the expression of ideas orally and in writing, the correct spelling of words in common use, clear enunciation and correct pronunciation.

Speaking is an earlier art than writing, and in the infant school children may be heard freely talking of

themselves, their families and their interests. But older children grow more reserved and less ready to reveal their intimate life, and in consequence "oral composition" may become a formal and troublesome exercise from which all pleasure and spontaneity have disappeared. The problem is again largely a matter of selection, and the teacher should contrive to hear what kind of topic animates a group in the playground or street, and make use of it so far as he can. Unusual incidents in school and home, out-of-the-way experiences of individual children, amusements, hobbies, excursions, games and so on will be found valuable. Since Mr. Caldwell Cook¹ showed how well his boys could talk when they chose the subject from their own experience and interests, the lesson called oral composition has improved enormously in many schools.

Facility in continuous narrative and the self-assurance required for speaking before an audience are not easily gained. Interruptions destroy continuity and break down self-assurance, and the correction of errors must be left to another time. The same principle suggests that, where children speak dialect, too rigid and too early an insistence on standard English will produce hesitation and reticence. The ultimate aim of enabling the child to speak standard English is not incompatible with the retention of dialect: children in bilingual countries have a far more difficult problem. If the teacher himself knows the dialect he can often use it for comparative purposes, and so help to prevent the slipshod use of language which is neither dialect nor standard. The teacher's example will have a potent influence on the pupils.

Reading has long been a chief occupation of the junior school, and the traditional method of the oral

¹ *The Play-Way.*

reading lesson, where child after child reads aloud in turn, the others listening or pretending to listen, is very ineffective with a large class, though it has greater value for small groups. The very unequal development of children in reading, which is manifest by the time they enter the junior school, demands group methods.

Those children who have not overcome the mechanical difficulties at 7+ must be grouped by themselves. Their chief need is simple, interesting and well-illustrated books. The children who are already proficient may sit apart and proceed with silent reading. The largest group, those near the average proficiency for their age, will require frequent help from the teacher.

From the point of view of curriculum the first and last question is the supply of books. The Report of the Consultative Committee on Books in Public Elementary Schools, published in 1928, revealed the fact that the average annual expenditure on books was rather less than 1s. 8d. per child, and one county borough had the unenviable distinction of reducing this meagre amount to 8-3 pence. When critics say that schools are "too bookish" they can only mean that a few books are used too much, not that too many books are bought.

The grant is far too parsimonious and is not always wisely spent. The variety of needs is great: there must be, as stated above, attractive and easy books for the poor readers, informative manuals from which information can be quickly abstracted, reference books for occasional use, and a wide variety of literature, constituting a carefully chosen class library from which pupils may select books which will satisfy their interests and make their recreational reading an enjoyment.

These books should be available for home reading and the teacher should help the child to select the type of book he wants. Where a circulating library is available the supply is inexhaustible, but the class library, if chosen carefully with the members of the class in mind, still remains a valuable part of the equipment.

There was a time, a generation and less ago, when the needs of children were supposed to be met by a supply of three reading books, geographical, historical and general, and as the oral method was universal a copy of each was bought for every child. In a class of fifty children the cupboard contained 150 books, but there were only three kinds, and the quick reader exhausted them in a short time. Never was frustration more successful.

The most difficult aspect of language is written composition, because of the complexity of the factors involved. The mechanical difficulties of writing and spelling must not be so absorbing as to leave no thought for ideas and their arrangement. The interest of the child in writing letters to his friends has already been mentioned: they are short, they describe familiar things, they are informal and, like conversation, they are friendly and natural. The early written work of the child should follow this lead: it should be brief and informal accounts of experiences which have interested the writer, not tasks of grave seriousness set by the teacher and hedged about with many pitfalls. Nobody can write well without having something to say and some interest in saying it, and the something to say must be derived in the beginning from first-hand experience and observation. Hence a choice of subjects is always desirable.

By the end of the primary course it may be possible to lead the child to some discernment of the different

qualities in narration, description and exposition, and provide practice in studying and imitating some clear examples. The attempt to achieve vividness in narration, accuracy in description and clarity in exposition provides exercises of great mental value. In judging written work the teacher should attempt no mechanical system such as subtracting a mark for each error : some errors, indeed, are the result of brilliant failure and the outcome of originality and should not be penalised.

Grammar, which survived in the elementary school so long as it was a grant-earning subject, has steadily disappeared since that time. To those who remember its mechanical form and abstract nature this decay will seem justified, but there are good reasons for the view expressed in the Report that "an irreducible minimum of pure grammar should be taught as a part of the English course". Words have their function, and sentences have their structure, and these can be made intelligible to children before they leave the junior school. At least they must master the possessive case in nouns, the objective and possessive case in pronouns, the singular and plural forms of nouns and verbs, the methods of comparison of adjectives and adverbs, and the changes of person and tense of verbs, for these variations are the cause of many errors. Grammar can be closely associated with and largely determined by the pupil's needs, and it should result in some knowledge of grammatical terms and relations, and in some realisation that these relations exist in a language that is so little inflected as English. If, later, he learns a foreign language he will benefit by such knowledge, but the main purpose of grammar in the early stage is its utility in helping him to overcome practical difficulties.

In outlining a curriculum it is impossible to avoid the use of names which suggest separate "subjects", though it has been repeatedly said that such separation is contrary to first-hand experience. The child is interested in the things about him, but school "subjects" are often meaningless, a form of book drill imposed upon him for no reasons that seem important to him. Synthetic curriculum still necessary

The new mode of approach must be realised chiefly in the infant and junior school. Much has already been done, but more still remains. Thus, there are few schools which do not use some situation like the preparation for a school play, or for a school excursion, in which separate subjects disappear because they are merged in a larger whole. The eager and willing co-operation of the pupils in the activities is obvious.

It is the contrast between the child's forced and half-hearted response to tasks imposed from without, and his whole-hearted persistency in efforts that yield results valuable in his own eyes, that has led to much experiment and discussion during the present century. Dewey's essay on *The Child and the Curriculum* at the beginning of the century revealed the nature of the opposition. The Scout movement recognised the opposition and devised many activities to resolve it. The Project Method of recent years adopts the same standpoint: instead of subjects it presents problems or projects to the child, or better still, it accepts the child's proposal to make something or to find an answer to a problem that baffles him. In the search the pupils may require help from many different fields—scientific, mathematical, geographical, historical and so on—and the teacher can guide the search into whatever channel he wishes. The choice of the problem by the

child ensures its relationship to experience, and its importance to him. Sometimes the inquiry takes a wide range : a local industry, historical remains, means of transport, the origin and manufacture of the goods in the local store ; sometimes the project is practical and utilitarian, as in the making of a rabbit hutch, or a present for an absent member of the class, or Christmas presents for the home, when not only manual skill is required, but also calculations of materials and costs must be considered and designs made.

Teachers used this plan long before it was dignified by a special name, and it has valuable possibilities in the junior school. By its means the child learns how to consult books, how to collect information, how history needs geography, how arithmetic and geometry serve practical ends and how art and craft are related. The method is a natural introduction to the child's formal instruction, and his activities grow more specialised and more separate as he advances. For as he realises the nature of the contribution which a particular subject makes, he is preparing himself for the study of that subject and the separation will not then baffle him. The task of the junior school can be conceived as preparing him for this more abstract work, though the project method after the age of 11 may still be used with great advantage in the type of work appropriate to the senior school.

A normal child can see a purpose in reading and writing long before he realises the value of " subjects " like science and history, and so formal exercises may rightly be provided in these instrumental subjects so that they may become useful tools. The project method is fruitful in keeping alive and in stimulating the activity and ingenuity of children, and in promoting co-operative effort ; by itself, however, it would

leave gaps in their equipment, and for this reason its use will diminish as the child develops, and a more balanced time-table will secure his attention to all sides of the curriculum. Before he leaves the junior school he will be made accustomed to the more formal and analytical treatment of experience.

CHAPTER IX

THE CENTRAL AND SENIOR SCHOOL

The
problems
of post-
primary
education

VARIOUS attempts have been made at different times to make provision for pupils over the age of 11 by establishing courses of advanced instruction, and the raising of the school-leaving age to 14 brought the question into considerable prominence. In 1924 the Board of Education invited the Consultative Committee to "consider and report upon the organisation, objective, and curriculum of courses of study suitable for children who will remain in full-time attendance at schools, other than secondary schools, up to the age of fifteen, regard being had on the one hand to the requirements of a good general education and the desirability of providing a reasonable variety of curriculum, as far as is practicable, for children of varying tastes and abilities, and on the other to the probable occupations of the pupils in commerce, industry and agriculture".

The Report, known generally as the Hadow Report,¹ has been universally accepted as the guide to a reorganised system of schools which would provide different types of post-primary education for children not proceeding to a secondary school.

Reorganisation has proceeded more slowly than was anticipated, and the expected raising of the school-leaving age to 15 has been long delayed, but the Report

¹ Report of the Consultative Committee on the Education of the Adolescent, H.M.S.O., 1926, referred to as "the Report" in the remainder of this chapter.

has had a marked influence on the national system. The proposal of the "clean cut" at the age of 11+, bringing primary education to an end, and giving the pupil a new start in one of many types of post-primary schools, has won general acceptance in England. It has not been easy to apply in some rural areas, where the number of pupils may be so small that a large district must be served by one school, necessitating a considerable amount of travel. But in urban areas the differentiation of schools is much easier to carry out, and has evoked little opposition.

Omitting secondary schools, which were outside the terms of reference, the Committee proposed three kinds of post-primary school: the selective central, the non-selective central and the senior school. These schools have, of course, much in common; they offer a general education suited to the age and capacity of their pupils, and, as compared with secondary schools, they should give a much more important place to practical instruction as a way of learning. The Report recommended that they should give a "bias" to the general course of study by relating it "more closely to the living texture of industrial or commercial or rural life", so that the pupils should feel a close connection between school occupations and the work to which their minds will increasingly turn as the end of school life approaches.

As between themselves the three kinds of school differ alike in the range of the ability of their pupils, and in the curriculum they provide. A selective central school which admits its pupils by examination will contain a more homogeneous group than either a non-selective or a senior school, and its problems of classification will be less difficult. A non-selective central school will contain pupils with wide differences of ability and must differentiate its courses accordingly.

A senior school will contain a larger proportion of children of relatively low intellectual capacity. These differences will affect the range of the curriculum, the rate of progress, and the methods of teaching.

It is obvious that the non-selective central school combines the problems of the other two. It receives children who have just missed winning a scholarship to the secondary school, and whose failure is due more to the shortcomings of the examination system than to actual inferiority; but it also receives children who are backward or retarded, and who have achieved little success in their school work. It is customary, therefore, in such schools to grade the pupils in three "streams" moving at different rates; in such cases the A stream follows a course very similar to that of the selective school, while the C stream resembles a majority of pupils in the senior school. One of the advantages of the non-selective school is that it can transfer pupils from one stream to another without difficulty, and since children of 11 do not always reveal their powers there will be cases where later transference is desirable.

Indeed the problem of suiting the curriculum to increasing differences of capacity and interest is the outstanding problem of post-primary education, and is felt no less in the secondary school than in the other types. The Report envisaged the possibility of transferring pupils from one school to another at the age of 13, and partly for that reason suggested that the curricula in secondary and central schools should be the same during the first two years, but in practice transference is difficult, and has been tried only in a small number of cases. No doubt if the suggested changes in terminology of the Report, namely, that all forms of post-primary education should be called and should

be in fact secondary, had been realised, then transference would be much more easily secured, but the view that the central school is inferior to the secondary school still prevails. And there are many now in the secondary school world who are advocating the multi-bias secondary school as a solution of the problem, and propose to establish varied courses within their own walls. The non-selective central school is a multi-bias school, and the advocacy of the same idea among secondary schools is an interesting development of recent years.

The aim of post-primary education is well expressed in the Report : " There are three great ends of human life and activity which we trust that our scheme will help to promote. One is the forming and strengthening of character—individual and national character—through the placing of youth, in the hour of its growth, ' as it were in the fair meadow ' of a congenial and inspiring environment. Another is the training of boys and girls to delight in pursuits and rejoice in accomplishments—work in music and art ; work in wood and in metals ; work in literature and the record of human history—which may become the recreations and the ornaments of hours of leisure in maturer years. And still another is the awakening and guiding of the practical intelligence, for the better and more skilled service of the community in all its multiple business and complex affairs—an end which cannot be dismissed as ' utilitarian ' in any country, and least of all in a country like ours, so highly industrialised, and so dependent on the success of its industries, that it needs for its success, and even for its safety, the best and most highly trained skill of its citizens." To this should be added physical training, and thus the four broad paths of health, character, recreation and in-

Post-
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school
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telligence combine to make a high road along which the pupils will progress.

What has been said already about the importance of a unified curriculum for young pupils is no less applicable in the post-primary school, although the use of specialist teaching leads to an undue separation of subjects unless carefully guarded against. Mathematics and science, history and geography, art and crafts—these pairs have so much in common that their separate treatment leads to overlapping and waste. There should be regular staff meetings to discuss the curriculum and the relationship between the different parts, so that every teacher knows what his colleagues are doing and can assist in effective co-operation. Unification applies also to each subject: arithmetic, mensuration, algebra, geometry and (perhaps) geometrical drawing should appear on the time-table as mathematics, and the teacher should be free to vary the time devoted to any one branch as the need arises, and to use the others when they throw light on the branch concerned.

Influence
of leaving
age on
planning
of curriculum

The post-primary school is, for the vast majority of its pupils, the final phase of formal education, and this fact should influence the curriculum. While the leaving age is 14, the course which begins at 11+ may last from a little over two years to a maximum of three, according to the date of the child's birthday. And as pupils can leave school at the end of the term in which their fourteenth birthday occurs the exodus may occur at three or at four periods of the year, as the authority chooses. This means that the final school year has a succession of withdrawals. In a large school it is easy enough to arrange for classes of pupils who will leave together; in a small school this is impossible.

The syllabus should be planned as a whole, and there should be an obvious continuity from one year to another. In mathematics and in a foreign language this is made necessary by the nature of the subject, but it is no less important in subjects where continuity can be easily broken, as in history and geography. The complaint that has been heard, that a pupil "did" the Tudor Period six times in school and never got beyond it, may be an exaggeration, but something of the kind is possible when the curriculum is constructed from year to year or from term to term. Within the general framework there must be room for individual interests, because individual differences now assume large proportions, and more attention is paid by the pupil to those subjects which seem to answer his needs, his capacity and his interests; his thoughts turn increasingly to the occupation he may enter and to the work of the practical world.

This is no plea for a narrow vocational training. The division of labour which has proceeded so far in modern industry is preparing for the pupil a perilously narrow future which, for a large majority, contains no educational stimulus. The school may attempt to give the pupil two kinds of defence, first in making the modern industrial world more comprehensible, and second, in fostering the individual interests of the pupil in every way possible. It is among the pupils of the central and senior schools that "the ability to do and to make, to learn from concrete things and situations, will be more widely diffused than the desire and the ability to acquire book-knowledge and to master generalisations and abstract ideas". The intellectual activities of many pupils will best be aroused by the stimulus of practical and concrete problems, and the environment itself can provide those first-hand ex-

periences upon which school instruction can be based. It is for this reason that the pupils' environment—rural, mining, textile, engineering and so on—will give a bias to the curriculum and make it more realistic. Education begins, must begin, with the child's experience and should extend it ; the industrial applications which the locality can illustrate are basic to this final stage of schooling which precedes actual employment.

But the pupil is preparing for more than a vocation : he is also a citizen in the making, a future home-maker, and he will have much leisure time to spend—or to waste. Important as is the work motive it covers but one aspect of life. Our social organisation is as complex as our industrial, and the institutions that serve us—post-office, bank and insurance company ; police and fire brigade ; departments of water, gas and electricity—are at work in our midst and only by knowing what they do can we appreciate their value. They may take us far afield ; the reservoirs which fill our taps are part of a vast organisation which distributes water supplies to ten million households ; the post-office at the end of the street is linked up in a network of connections, national and international, which have been built up with infinite care and thought ; the town-hall controls an army of workers who add to the comfort, health and well-being of the community. To understand these provisions is a part of intelligent citizenship ; to understand them more fully would raise questions of science, geography and history, and would give to these subjects an application which they sometimes lack when treated as book subjects.

So, too, the arts and crafts may be directed to the needs of the home. There are many skills with simple tools and materials which find immediate application in satisfying felt needs, and to which art lessons may

give an improved taste and design, a development of modern education which has produced some striking results. Nor does the principle fail us with literature—the most fruitful of all agencies for satisfying leisure, and so rich in variety that it can meet every type of demand.

The adoption of a bias in the third and fourth years of the post-primary school was discussed in the Report with caution. It is not possible to know the kind of occupation to which a large proportion of the pupils will go, even in areas which are labelled as mining, or textile or agricultural. The mobility of labour has largely increased in the present century. Nor did the employers who gave evidence to the Hadow Committee demand any vocational training: the qualities they look for are general—intelligence, habits of careful observation, accuracy in carrying out simple instructions, receptivity of mind, adaptability, resourcefulness and the like. Evidently employers prize the same qualities of character as teachers, and do not want specific preparation for a particular kind of job.

Practical
bias in
closing
years

The bias recommended in the Report must not be confused with vocational instruction—it is to be a “practical bias” which will emphasise the practical aspects of certain subjects, but which will not prejudice the general education of the pupil. While the curriculum will have regard to local environment, and while opportunities will be sought for developing close relations between schools and industry, the whole life of the pupil is to be fostered.

Whatever may be the intellectual equipment of the teachers in post-primary schools they must acquire some knowledge of the social and industrial conditions of the area in which they teach, and be able to establish connections between school studies and the life around

them. Book knowledge is not enough : there should be a practical outlook, a willingness to experiment, a sympathetic understanding of the pupil to whom "pure" knowledge makes little appeal, and who is only to be won by practical values. It was because of this that the Hadow Committee recommended the employment of a certain number of teachers from other callings, whose practical knowledge would be of special help in securing a more realistic and practical education. Teachers with a knowledge of industrial, commercial or agricultural work would help the schools to keep the practical bias fresh and real.

It is obvious that much special equipment is needed for the practical occupations. Woodwork, domestic subjects, practical science, art and physical training all need their own places, tools and apparatus. In the words of the Report the post-primary school "ought not to be hampered by conditions of accommodation and equipment inferior to those of the schools now described as secondary".

The full realisation of the Report, implying as it does both an extension of the school-leaving age and also a vastly extended financial provision in the way of buildings, equipment and teaching strength, will take some time ; the financial depression which followed soon after its publication checked the enthusiasm it aroused, and delayed the provision of new schools which reorganisation required. But its recommendations are coming more and more into operation, and post-primary education is a more clearly defined unit in the national system than it was a few years ago.

The general outline of the curriculum applicable both to central and senior schools will be discussed below in the five branches already distinguished. Some types of senior school present further special

problems which will be considered briefly at the end of this chapter.

The free and informal physical training of the primary stage should be continued, and supplemented by more systematic physical exercises, as suggested in the Board's *Syllabus of Physical Training for Elementary Schools*, and in the Board's volume on *Gymnastic Training for Boys' Schools other than Elementary*. Physical pursuits

The team games that begin to flourish in early adolescence require playing-fields near the school, and access to one by every school will, it is hoped, be as natural in another generation as the possession of classrooms. The large-scale slum clearance schemes now in progress are moving children from overcrowded areas in the cities to places where land is available, and it is unlikely that the mistake of a former generation, in allowing the school to be surrounded by buildings which shut out air and sunshine, and make the playground a small and ugly patch of asphalt, will be repeated. Meanwhile, temporary expedients are necessary. Already certain London schools send their pupils for a day to playing-fields at a distance, where there are also classrooms, and where spray-baths are also to be installed. Such experiments, with the use of the trams and buses which have brought workers to the city, should be multiplied.

Team games are valued in England as a means to the development of character and of the social virtues, and to the promotion of general health, rather than as a means to the correct development of the body. Indeed, most games and sports in excess lead to unsymmetrical development by the continuous exercise of the same groups of muscles. The modern conception of physical training, which requires in the teacher a

knowledge of physiology and anatomy, is very different from the crude exercises and formal drill of only a few years ago. It is a corrective science, designed to suit the age, capacity and physical needs of each pupil, and to assist his general physical development. The Board's syllabus gives various "tables" of exercises grouped in such a way as to promote this all-round development; these are well within the capacity of all normal healthy children at the ages for which they are arranged. A specialist teacher or organiser should be available, perhaps for a group of schools, for there are not enough experts to supply every school; it was only in 1933 that the first physical training college for men was opened in this country, though women's colleges have existed much longer.

There are many ways, less specialised, in which the school promotes physical education. Swimming is a valuable exercise and is increasingly taught. Walking, in spite of the multiplication of forms of easy transport, can be encouraged; associated with summer camps it offers the cheapest form of recreation. Athletic sports are familiar events in the school year, though their restricted range, as compared with some of the old English festivals like the Grasmere Sports, makes one wonder whether the schools, too, could not get more physical enjoyment out of a wider choice of contests. There are districts where folk-dancing and sword-dancing have survived in their ancient forms; their revival in other places suggests that these ancient graces of movement and posture can assist physical training and give it an artistic realisation. Folk-dancing performed on a village green is a satisfying spectacle: its simple music and its patterns are rich in harmony. If every school had a level green-sward there are many days in the year when physical

activity could proceed in this way, with everybody a participant and nobody a mere spectator.

Physical education is achieving a more important status in the school, and a larger share of the timetable. With it there is needed simple instruction in hygiene and physiological function. The habits acquired in the early stages should now be supplemented by an understanding of the hygiene of the body, and of the home and the school, while the reasons for such habits should be made clear. If biology is taught, and simple animal types are examined, the physiology of the human body, treated functionally, will be associated with it, and wider questions of national hygiene may also be discussed.

To physical education also belong the medical oversight of the pupils, the remedial treatment of the ailing child and the provision of meals for those suffering from malnutrition. This work, carried out by the school medical service, throws much labour on the teachers, and the complaint is sometimes heard that such additional duties take up too much time and interfere with other school work. The criticism is ill-founded and implies a duality of physical and mental oversight which is untrue: the school is as much concerned with the body as with the mind, and the teacher must learn to regard physical welfare as an asset and not as an interference.

The proficiency of pupils with pencil, brush and Artistic
crayon must be turned, in the post-primary school, in and con-
the direction of both utility and the appreciation of structive
beauty. Utility is more readily realised, for art assists pursuits
woodwork and metalwork, elementary geometry and science, geography and history; while, through his own practice in observing and reproducing, the pupil can be trained to appreciate more fully the meaning of

diagrams, pictures, maps and plans in the books of reference he uses.

There are four kinds of drawing that should be practised :

- (i) Object drawing both in the classroom and out-of-doors. Careful observation and correct delineation of form are important, and the use of light and shade as well as colour will give the means of more complete representation. This work assists the pupil in his Nature study and handicraft, and the sketching and painting from Nature may be used to illustrate points of appreciation.
- (ii) Memory drawing is a valuable exercise, and is the natural forerunner of imaginative and illustrative drawing. Some schools promote a voluntary art class for pupils of talent, and provide opportunities for work outside the time-table.
- (iii) Geometrical and mechanical drawing. The making of scale drawings and the use of instruments are necessary accompaniments of handicraft. In schools with a technical bias this work will be an important part of the last year or two years of the course.
- (iv) Design. The imagination to adapt simple forms to a particular purpose, and precision in setting out the form, are acquired only through long practice. Design is not decoration, it is the creation of a unity between the material used and the purpose it serves : the object constructed must be efficient for its task and must satisfy in proportion, form, rhythm and decoration. It is for ever experimenting, and the bold lines of modern design stand in contrast to the artificiality and over-elaborateness of Victorian art. The school can

offer wide varieties of exercise ; in dressmaking, in making articles of furniture, book-covers, lamp-shades, posters, woven goods, and so on there are endless opportunities for discussing the merits of a good design and for the improvement of taste. Illustrated books in the class library should be provided where the class may see first-rate examples of applied design, but it is through the discussion of their own efforts that they may be trained to prefer the good and reject the bad. In no better way can the teacher direct the work of the school to influence the home, for the choice of wallpapers, curtains, rugs, carpets and furniture can all be illustrated during the course.

Craftwork has now won a secure place in the post-primary school, although it deserves in most schools a much larger share of time than has yet been allotted to it. If a large proportion of pupils learn more easily from objects and concrete problems than by means of general and abstract ideas, then craftwork must be pursued both for its own sake and for the assistance it gives in the learning of other subjects. To the slow learner it may help to bring some self-respect. To the boy or girl who regards handwork as more attractive than book-learning it makes immediate appeal. It can be used to foster self-help as well as co-operative effort.

Some of the earlier advocates of handwork argued that it was a cure for the dull pupil, and teachers have been heard to confess their disappointment that little sign of intellectual awakening has followed its introduction. We must expect no such miracle : except in rare cases the pupil who is dull in his school work will be slower and less accurate with tools than the intelligent pupil. It would be strange if it were

otherwise. The construction of objects requires accuracy of measurement, careful planning, foresight and intelligence, as well as skill in manipulation, and the dull pupil is likely to fail at some point or other. But what is true is that the dull pupil can keep his attention more continuously on a concrete than on a verbal problem, can achieve some measure of success that is significant to him, and can grasp more clearly the nature and extent of his errors. The claim for handwork is not that it cures dullness but that it is often a more profitable way of learning for the dull child.

The handicraft centre, which was formerly detached from the school and had little intimate contact with it, is rapidly disappearing, and the workshop is becoming an integral part of the school. The work done in it should be closely linked with other school occupations and it can supply many of their needs. The school is constantly requiring simple apparatus, fittings for the school play, garden frames, seed boxes, curtains and teaching models, for which the help of the workshop should be sought. Demands will vary with the school and its particular curriculum, but they will be continuous.

Such demands are not always welcomed by the teachers of craft subjects. There is an organised course in woodwork, or metalwork or needlework, and these requests may sometimes appear to be interruptions to a carefully planned curriculum. Some of this work requires little skill or technique, and has no direct educational value; friction has therefore frequently resulted. Craft teachers have been fighting for a more serious recognition of the importance of their work, and it is natural enough that they should resent the implication that they should be at the call of every colleague. The school must be reasonable in its demands and give

long notice of its requirements. Moreover, the time allocated to craftwork—often not more than two and a half hours a week—is not enough for the double requirement of teaching a craft and supplying the school with its endless requirements.

Crafts in school serve a double purpose: they are taught for their own sake, and also for the service they can give to the community. Both aims are important, and their satisfaction would require a liberal allowance of time, probably at least five hours a week. In non-selective central schools and in senior schools much more time could be profitably allotted.

The restriction of boys to woodwork and metalwork, and of girls to needlework and housecraft, is sometimes modified by providing a short course in woodwork for girls and in cookery for boys. These courses are said to be very successful, and the Report recommends that girls as well as boys should learn how to use tools and be able to do simple repairs at home. Such experiments are instructive, for they raise an important issue which divides teachers of crafts into opposing camps. Is the aim of handwork in school to bestow a high degree of technical skill, or to create wide interests by a variety of experience with different crafts?

The question is a complex one. The school may be compelled by circumstances—accommodation, equipment, materials and staff—to concentrate on a single craft, and much can be said of the educational virtue of achieving mastery within a small range. The work now done in some post-primary schools is so excellent that it evokes the warmest praise from men who themselves are skilled craftsmen.

But if the school is to cater for individual interests and capacities, the pursuit of a single craft is not

enough. Psychological inquiry suggests that the muscular skill of one craft is different from that required for another, and failure with one craft by no means indicates failure with others. Moreover, every craft has its own culture and history, and the lore of the cabinet-maker, the metal-worker, the weaver, the potter, the bookbinder and the needlewoman has been accumulated in long service through the centuries. Some acquaintance with their materials, tools and processes, and some knowledge of their varied productions, are valuable acquisitions. Thus on educational grounds there is a case for variety.

As was stated in the previous chapter, the school may attempt to realise both values, to introduce the pupil to various crafts, and to allow him, before the end of the course, to apply himself intensively to one selected by him. The rigid system, which is now finding favour again, of compelling every pupil to go through a long period of drill in fundamental operations, may succeed with some pupils, but for a large number it is an arid method which will defeat its own purpose.

Handicraft for girls is in better case. The designing, cutting-out and making of garments is a natural interest for most of them, and the introduction of embroidery, tapestry, leatherwork, bookbinding, basketry, pottery and weaving offers a choice which meets with ready response. For the most part they are crafts which produce results without long drill, and their close association with art makes them the media of individual expression.

The increasing recognition of housecraft and the provision of a well-equipped kitchen in the new schools is a most satisfactory development. Most women must, sooner or later, undertake household duties ; to learn how most efficiently to discharge them, how

to avoid unnecessary drudgery, how to bring intelligent skill to the better ordering of household work, is an important function of the school. That some girls already dislike housework because of the burden they carry at home is a reason why the school should attempt to create a right attitude to it. The environment and the type of home from which the girls come must be regarded, for they should be trained to meet the actual conditions they know, though simple and cheap labour-saving devices and modern improvements should be demonstrated to them. The range is extensive—cooking, laundrywork and cleaning processes; first-aid, nursing, and the care of young children; simple essentials of diet, food costs and values. Slum clearance schemes, types of modern houses and modern styles of furnishing and decoration will provide opportunities for making the instruction practical while developing improved taste.

Music, too, is a fine art, though it differs in school from other arts in that its main objective is not so much the acquirement of skill as the enjoyment of beauty. The school's main concern is to provide opportunities for hearing good music, and to promote chorus singing.

The suggestion in the Report that there should be ten minutes' choral singing, preferably by the whole school together, every morning, is an excellent one. It adds to the community sense of the school, it is stimulating and it promotes good discipline. Songs of good quality are increasingly used in schools, and the range that could be taught in brief daily practice is very large.

In addition, there should be class instruction, where the reading of staff-notation and musical dictation would be practised, and where talks on the

nature and construction of music, illustrated freely by examples of good music, would be given. If two weekly lessons are available, one might deal with the technical, the other with the appreciative side.

Where a teacher, or perhaps a pupil, has musical talent in playing an instrument or in singing he might use it for the pupils' enjoyment. The gramophone and the wireless will also provide first-rate examples. The Report suggests that, for a beginning, use might be made of "national songs of all countries, melodies of Handel and Bach, of Beethoven and Schubert, the lyrics of Schumann, the best of Mendelssohn's 'Songs without Words'"; it states that gifted teachers have succeeded in begetting genuine understanding and appreciation of "the movements of sonatas, symphonies, quartets, classical songs, excerpts from oratorios and cantatas, and scenes from operas". Examples should not demand concentrated attention for too long a period, and the analyses should be made simple. Children know when they like music, but they will find it difficult to give reasons for their liking.

A school orchestra provides further opportunities for the more gifted pupils, and for voluntary work outside school hours. The library should also cater for the musical child, and contain compositions, reference books and biographies. In the words of the Report, "if the children leave school with their memories full of fine tunes and their ambitions roused for further study and exploration, then the school will have done a great deal for their musical training. If, in addition to this, they carry away, as is quite possible, some intelligent knowledge of musical history, and some apprehension of the principles of musical structure, then the place of music in a school education will be amply vindicated."

Religion, literature, history and human geography ^{The Hu-} are records of man's experience and relations, ^{manities} and their inter-connection should be maintained in the post-primary stage. The theme of human aspirations, imagination, achievements and discoveries is the means of linking the youth's own experience with that of his fellows. Through them he may catch a glimpse of the eternity of time and the infinity of space.

It is unfortunate that religious instruction, for historical reasons, is limited to a definite period of the day, for this suggests that it stands isolated and detached from other studies. The Bible is used both as the authoritative source of creeds and as a great literature describing the struggles, victories and defeats in a people's growth. Whatever view is taken of the first use, and different groups in this country have secured the freedom to teach their separate interpretations within the national system of education, the second use is universal and the teachers of literature, history and geography may use the Bible for their own purposes, without trespassing on the doctrinal teaching which a particular Church may require. As a means of literary training the Authorised Version of the Bible stands unsurpassed. The Victorians erred in making it a book of tasks, associated with punishments, but the realisation that such misuse is a mistake ought not to lead to its neglect.

The young adolescent will begin to ponder over deep questions of human value and human destiny, though he seldom reveals to others the matters that trouble him. The school, apart from religious teaching which as yet the youth is not prepared to challenge, can help him best by showing him that he belongs to a great army of seekers who have struggled

and endured through the ages. The cry of the religious man, the song of the poet, the self-sacrifice of the explorer and of the martyr are linked together : they display men's quest of the ideal expressed in different ways, the restless search of human beings, with the same passions as ourselves, for something greater and better than what they knew. In every race and at all times the human spirit has yearned for the infinite.

The teaching of the humanities should give the pupil the feeling that life is a great adventure, yet at the same time the post-primary school must not lose touch with the world as it is here and now. The pupils live in the twentieth century and are marked out for an industrial or commercial career. They should know something of the forces that shape that world, and of the aspirations and struggles of the workers whose ranks they are soon to join. The religious struggles of the sixteenth and the political struggles of the seventeenth centuries, which are still taught so meticulously in many schools, are not the best material with which to prepare them for their future. There must be a bold selection from the material available, and local illustrations must be used wherever they can be found. The struggle of the agricultural labourers in the south and of the factory workers in the north come nearer to the pupils' experience than the fires of Smithfield or the arguments for Divine Right. They can be made to feel more potently the lamentations of a Cobbett or the indignation of an Ebenezer Elliott than a dull catalogue of "facts" culled from a text-book. Yet while some struggles were industrial, history and literature fill a larger canvas than the story of industrial revolutions.

History is not a neatly arranged parcel of knowledge to be learnt and forgotten ; it is a key that unlocks the

doors to new worlds. A few pupils may catch sight of the "plan" of history, but for most the "picture" remains supreme. Orthodox historians may condemn Froude for his inaccuracy, but he could write in such a way that the reader is carried away by his enthusiasm. The dull text-books that have served in the schools might be scrapped for a time, and the experiment tried of encouraging some of the pupils to read Froude, McCarthy, Trevelyan and any writer who can recreate the past vividly. The class library should be constantly in use: a part of the training consists in showing the pupil how to use books, and in selecting from them, with the aid of index and catalogue, the matter required.

A detailed curriculum in the humanities cannot be laid down, for it should vary from school to school. There are classes where a Shakespeare play is a success and classes where it is a dismal failure. The poetry offered to children is sometimes very remote from their interests, and many books read in school are read too slowly and carefully. There is little sense in reading a work of fiction twice a week and continuing it throughout a term and more, long after interest is exhausted. A book should not be continued if the pupils show manifest boredom—the teacher could summarise the remaining parts and select another book.

Fiction, essays, biography, poetry and drama are all to be represented in the class library, and reading is for enjoyment. When a pupil shows a definite line of interest the teacher should give him a list of authors and books likely to suit his taste and let him indulge it. He must be patient: if the boy declares his preference for Sexton Blake, the teacher must challenge him with Conan Doyle or a more modern detective writer; if

the 'impossible adventures of a schoolboy in a weekly paper are popular, the teacher might try the effect of reading a chapter from *Stalky and Co.* or from one of the almost forgotten stories of Talbot Baines Reed. Yet the teacher must not seem to push his own choice too hard: if the class come to associate him with "stodgy" books, the power of his suggestion will be undermined.

An important problem of the post-primary stage lies in the attitude to life which the pupils acquire by the time they leave school. While the school-leaving age remains at 14+, and even when, in 1939, it is raised to 15 with exemption at 14 for those who can obtain beneficial employment, the post-primary school will have little enough time for its task, and the final year will be broken by waves of withdrawals. Class instruction will be less and less easy as the time of leaving draws near, and the school course should probably grow more and more specialised to meet individual needs and interests. In the humanities what matters most is that the pupil should know something of other times and other countries and realise how they bear upon the present; he should know how to use books and how to obtain them from the town library; he should know something about newspapers and the contradictions they reveal. The claims of economic history should be considered in the final year; in the words of the Report, "the subject bears obviously upon the pupils' future occupation . . . the material for its study is nearer to their immediate interests; it brings in much matter connected with legislation; it involves responsibilities connected with the individual as a member of the community; it necessitates the consideration of material factors outside one's own country; incidentally, it introduces the pupils

to the great complexity of economic problems which are so often regarded as matters of common sense". Above all, the illustrations are to hand. "As alternatives to economic history such subjects as the machinery of government, the development of self-government in the Dominions, the development of law, or world history, are well worth experiment in the final year of school life." Of all these alternatives the machinery of government and the development of law have the advantage that they bear directly upon the life of the citizen.

Geography is both an indispensable aid to history and an introduction to the study of material forces and conditions which affect human life. It is a subject that is easily adapted to different kinds of pupils—both the bookish type who can read and understand a textbook, and the practical type who may advantageously spend more time in the construction of models and apparatus, in school excursions and visits. There is much advantage in using one room for geography, for the equipment for physical geography can be kept there and wall maps can be made easily available. Tables are required for the display of maps and illustrations and for drawing large-scale maps. An epidiascope, a lantern and, in some cases, a projector may be available, and there should be a library of textbooks and of readable travel books.

Visual education has made marked progress with the coming of cinematography, and more experiments should be tried of using cinema halls during the daytime. A hall might accommodate as many as a thousand children who could be taught there simultaneously, and in a week many thousands of children could receive two hours' instruction at a very low cost. If a committee of teachers arranged a programme of films covering every region of the earth in turn,

illustrating fauna and flora, physical features, people and occupations, and circulated this among the schools, each teacher could arrange for his class to see those films which had reference to his own curriculum. No pupil would go to every programme : his visits would probably occupy not more than one or two half-days each term, and one hall would serve many schools. The teacher would prepare his pupils for what they are to see, and would use the visits in subsequent lessons. In this way the school might help to create a more critical audience for cinemas, and school experiments of this kind would assist in the production of a larger number of instructional films.

Study of the locality helps in the understanding of wider geographical concepts, and the rural child has the advantage over the town child in being able to see the physical features of his own district displayed before his eyes. For the town child there remains the educational visit or the longer school journey, which can provide excellent opportunities for learning the art of map-reading. As in history the teacher of geography may well consider whether, in the last year at school, the pupil should return to the study of his own country, especially in its economic, industrial and commercial relations with the Empire and other countries. In industrial areas some of the greater industries might be studied in detail ; in commercial towns questions of transport, distribution and markets might receive special attention ; in rural areas the study of vegetation and food products, and the interdependence of industrial and agricultural regions, might form a special topic.

Mathe-
matics
and
science

A plea has already been made for the curtailing of the course in arithmetic and for the inclusion of elementary mathematics. The scientific and engin-

engineering inventions of the modern world require a knowledge of mathematical principles for their understanding, just as do civic, national and international finance. The post-primary school should include such parts of mensuration, algebra, geometry and trigonometry as assist in the understanding of everyday problems.

Mathematical ability is given very unequally to pupils, and they must be graded for their instruction, so that the "sets" may be fairly homogeneous. The syllabus covered by different sets will vary considerably, and the weaker pupils must be kept close to concrete illustration and application.

The Report recommends the omission of the following parts of school arithmetic: complicated fractions, recurring decimals, complicated examples of practice and reduction, of H.C.F. and L.C.M. and cube root. Some teachers would go further: they would prune the tables of measurements and weights, and would confine calculations to the kind of problem that is met with outside school; they would also omit the puzzling and useless "problems" which introduce such well-known absurdities as bath taps, the hands of a clock and passing trains, on which so many children have wasted their time.

The various branches of mathematics should not be separated by artificial labels. Thus, if the pupil has been engaged in determining the areas of several rectangles by practical methods, and comes to the use of symbols to express a general formula, he may pass from arithmetic to algebra without knowing it. To quote the Report again: "As his work in arithmetic and mensuration grows, so his formulae become more complex; necessity arises for their transformation and manipulation, and out of this necessity the pupil learns

how to solve an equation and how to transform his formulae to make them easier for use ; thus he is led to simple factorisation, easy operations, algebraical fractions and other developments. Indices are introduced as convenient abbreviations ; their laws are thus readily observed and ultimately lead to logarithms, which most pupils come to regard as one of the really useful things which they learn in mathematics. . . . The really essential thing is that the pupil should have a clear understanding of the significance of formulae, should be able to manipulate them, to solve equations arising out of them, and to use graphical methods intelligently."

Similarly, the areas of squares, rectangles and triangles, and the mensuration of solids will lead to geometry, treated experimentally, related on the one hand to mensuration and arithmetic, and on the other, through geometrical drawing, to craftwork.

Early work in mathematics should be largely based on experimental and practical work, including exercises in weighing, measuring, drawing, and the construction of models. Such work gives a reality that may otherwise be lacking, for the clear realisation of the nature of a problem is the best starting-point of a process of logical reasoning.

Between the former meagre conception of elementary science, which, because of the lack of equipment, became a series of " object " lessons, often disconnected, and the specialised sciences of the secondary school in which chemistry occupied the most important place, many attempts have been made to introduce a general course in science designed to cover a wide field and to provide an elementary training in scientific method. Both aims are important : science plays so large a part in modern life

that some knowledge of its main lines of development is necessary, and it also offers a type of mental experience—the verification of data and the use of inductive reasoning—which cannot be illustrated so clearly in other subjects.

The Report suggests a basic scheme including four main aspects, chemical, physical, biological and physiological, but the names suggest a formal course of instruction. To introduce physics to pupils of 11 by a term's exercises in accurate measuring, or chemistry by a series of lessons designed to illustrate terms like element and compound, or concepts like the indestructibility of matter, or to introduce biology by the analysis of typical plants and flowers, may be to ignore the one thing that matters—that science is man's method of conquering Nature. The water that flows through our taps, the gas and electricity that light and warm our homes, the telephone and wireless that bring us sounds from afar, the steam engine that drives our machinery, the internal combustion engine that propels motor-car and aeroplane—these and a thousand other applications of science are all about us, and they should excite wonder in us all. The pedantic view that young people cannot understand anything without a carefully designed course built up bit by bit in logical order, *e.g.* that water must be presented as H_2O , and that lessons on hydrogen and oxygen, their preparation, their qualities and the laws of their combination must precede our study of H_2O , must be reversed. There is a time for learning that hydrogen is “combustible” and that oxygen “supports combustion”, that one is slightly soluble and the other insoluble, but such knowledge does not necessarily precede the more spectacular and romantic aspect of science which begins with

machines and inventions that are of obvious utility. The popular science journals often succeed better than the text-books; not seldom a boy owes his interest in science to a popular periodical far more than to the school.

From concrete acquaintance with the applications of science opportunities will occur for investigations into the reasons for phenomena, and the spirit of inquiry will be kept alive. For a purely "heuristic" method, which would leave the pupil to discover his own problems and their solution, there is too little time: the teacher must assist his pupils to find the problems, and must guide their inquiry along the paths that will yield the answers.

The actual content of the course will be modified by circumstances: some schools are not equipped with a laboratory, although ingenious teachers have succeeded in turning an ordinary classroom into an improvised laboratory at small cost, and designing an experimental course to be carried out with simple apparatus, much of which can be made in the school workshop. The nature of the locality will also be considered: elementary physics and mechanics being emphasised in engineering and textile districts, while in rural areas biology and the scientific equipment of the farm might take chief place. Other topics would include a further study of hygiene, associated if possible with biology, and raising questions both of individual and of public health.

The school library should illustrate not only the science course devised by the school, but also a wider range of scientific interests. Popularly written and well illustrated books on astronomy, optics, wireless, the internal combustion engine, the dynamo and general engineering, as well as biographies of the great

men of science, should be within reach of the pupil ; many boys and some girls find a strong appeal in books of this kind.

The ideal is that every lesson is a means of training Language in the correct use of language, for in every branch of the curriculum the pupil has to express his ideas orally and in writing. This is a doctrine of perfection, however, and it suffers in practice from the simple fact that what is everybody's business is nobody's business. If every teacher could and would apply this doctrine there would be no need for specific lessons in this branch of study.

Yet whatever help can be given by the science teachers in exacting lucidity of style, and by mathematics teachers in exacting terseness and exact argument, and by history teachers in training pupils to write persuasively and vividly, should be welcomed by the teacher of English, who exercises a general oversight over the pupils' written work, and whose task it is to train them to a better mastery of speech and writing. He should know what his colleagues are doing, and when a section of work of more than usual interest is proceeding.

Some training in distinct articulation and the correct use of the speech organs should be given, but opinions differ as to the value of a course in the elements of phonetics. To distinguish the separate sounds of speech and to associate each with its symbol need take but little time. Opportunities for practice in continuous narrative should be given, and the requirement so often noticed in the schools of France and Germany of requiring pupils to give a fairly lengthy summary of a lesson is worth imitating. So, too, the devices of reading aloud, of recitation and of dramatic work, of debating and of "lecturettes" are

all important, and in some schools are not sufficiently used.

Written composition should be associated with the pupil's knowledge and experience, and not regarded as a subject in itself. What he knows most clearly or has felt most deeply he will describe most effectively. He should not, therefore, be expected to write about things which do not interest him, or about topics which are remote from his life. Descriptive accounts of places he has seen and things he has done, explanatory accounts of lessons he has learnt, and logical accounts of an argumentative process which establishes a conclusion provide exercises for developing the qualities of lucidity, continuity and clear arrangement. Artificiality and insincerity must be checked, and a natural and simple style encouraged. Frequently, the exercises should have direct reference to the ordinary affairs of life—writing real letters to absent schoolmates or friends, giving clear directions of a route to a supposed stranger, explaining a familiar but complicated process, drawing up instructions which have been misunderstood by the class, and applying for a situation. Lucidity and accuracy are the important needs; for the few who have a natural gift in composition more difficult tasks may be set. A knowledge of the parts of speech and their functions in the sentence should be acquired, but this grammatical knowledge should be related to the special weaknesses and needs of the class.

The proposal of the Hadow Committee that a modern foreign language should be taught in post-primary schools has not won universal acceptance. In senior schools from which the more intelligent pupils have been withdrawn it is doubtful wisdom to attempt a second language when the mother tongue

is so imperfectly known and used. The slower streams in the non-selective school are in similar case, and it has been frequently asserted that not all pupils in the selective school have sufficient linguistic ability to make a foreign language profitable. It would seem wise that, where such a language is introduced, those pupils who show little capacity after the effort of a trial term should devote the time to other work.

Nobody will dispute the disciplinary, cultural and practical values of a foreign language, or that much progress is possible between the ages of 11 and 15 when a lesson is given every day. But, as we have seen, the post-primary school period for some pupils is little more than two years, and the demand for five lessons a week for a second language must be carefully weighed against other claims. The six requirements of such a course, as set out in the Report, include speaking intelligently and writing freely in the foreign language, skills which require long practice for their acquisition. If the course is to be brief the teacher must decide how the time can be most profitably spent. Songs and recitations may be learnt, games may be played and a French or German "atmosphere" may be helped by the excellent gramophone records on the market. A collection of maps, pictures, postcards, calendars, posters, newspapers and coins will provide indirect instruction. Children's books in the language, short and well illustrated, provide easy reading material, and serve as an introduction to more difficult books. If the teacher can bestow the power to read simple narrative, and create an interest in the life, customs, occupations, amusements and outlook of the people whose language is being taught, also a better understanding of their characteristics and a more

friendly attitude to them, he will have done much good. Any further mastery of the language must come from the evening continuation schools.

Problems
of the
Senior
School

To outline a course for several different types of schools may seem to imply a greater uniformity than is found, and the proposals made above are more likely to be fully realised in the central than in the senior school. The buildings, equipment and staffing of the former have received more attention in most areas than those of the senior schools, which are often regarded as less important.

The difficulty of generalising lies in the different meanings attached to the terms "central" and "senior" in different parts of the country, and in the varying degree to which the more intelligent pupils from the junior school are transferred to other types of post-primary education.

It is becoming clearer that the senior school may suffer unduly by the removal of all the pupils who learn easily. Where senior schools of this type unwisely accept the reproach of an intellectual inferiority, and where admission is made that the educational task is hopeless, then irreparable harm may be done. It will be a tragedy for English education if certain types of schools come to be regarded, whether by the general public, or by teachers, or by the children themselves, as a resort for the inefficient.

While some pupils in the post-primary stage cannot acquire easily the verbal knowledge that is tested by examinations, they still need an education that is adapted to their capacity, and that will fit them better for life. They are potential citizens; they are indispensable in industry, and they have human rights like all other constituents of the great society. To call them ineducable is to beg the question, for educability

is not synonymous with memorising information for an examination. They have bodies that need protection and development, emotions that can be refined and restrained, skills that can be improved, interests that can be enlarged, and characters that can be strengthened. If they respond indifferently to one aspect of school work and to the traditional curriculum they are still educable.

Hence, whether such pupils are segregated in senior schools, or form the C stream in non-selective central schools, they offer a challenge to the curriculum-makers which should be met by courageous experiment, on bolder lines than have yet appeared. In earlier days these pupils escaped to work as soon as they could ; now they are compelled to remain at school. They may have a mental age two, three or more years below their chronological age. They need the help of concrete illustration wherever it can be devised. Their mastery of language is feeble, and their books must be simple. At the same time their special aptitudes show considerable diversity, and among them will be some with well-marked skill in art, music, craft, mechanics and so on, combined, perhaps, with serious deficiency in reading, or arithmetic or composition.

Neither the traditional time-table nor the traditional syllabus will serve : the one is too inflexible, and the other too difficult. Even in the craft room, where formal courses by specialist teachers are common, the occupations are still too frequently devised for quicker learners. Teachers of woodwork are heard to complain of the inaccuracy of such pupils, and yet continue to keep them to a course which depends on minute measurement and the accurate marking out and cutting of a dovetail joint. A protracted course of technical

exercises is not suited to many of these pupils : they require a new type of course suited to their capacity, and teachers should be free to experiment with alternative schemes.

The same frustration is also found in some classrooms, where a tradition holds sway that inspectors require a syllabus that is comparable in range and quantity with that of other schools. If some specialist inspectors ask for too much from pupils who work slowly, and if their separate requirements, when added together, exceed what is possible, it is for the teachers to convince them of the realities of the situation.

The type of pupil we have in mind experiences considerable difficulty with the arts of reading, writing and arithmetic. He learns them slowly, uses them inaccurately, and even when extra time is devoted to them, the results are poor. We suggest that the school should spend no more than about one-third of the pupil's time on them, and that the syllabus should be drastically cut down. The reading books should be simple and interesting. Exercises in writing should be short : it is better to write a few lines which convey a picture of some object, or place or occurrence which has interested the writer than a longer account of a topic which is remote. Spelling exercises should be confined to familiar words. In mathematics the essential arithmetic of everyday life (common weights and measures, basic operations with small sums of money) and the simple geometrical figures will be enough ; practical methods should be used. The place of these regular drills will be safeguarded by the time-table.

To the practical pursuits more time should be given. The fact that these pupils are likely to become unskilled and semi-skilled manual workers is a reason why

their physical development should be carefully safeguarded, and physical welfare should be a specially important concern of the senior school. Music, art and crafts have their own significance, but not uniformly for all pupils, and any special capacity in one of them should be rewarded by facilities for its practice. While community singing may be shared by all, other kinds of musical training may be given only to those pupils who will profit by it. So, too, with the crafts : there are school needs which demand but little skill and all pupils can play some part in helping to meet them, but more exacting requirements should be met by those pupils who can acquire a finer technique.

This principle of selected pursuits would necessitate the use of workshops, art room and gymnasium throughout the day, and, except during the periods devoted to the three R's, the classes would change considerably in membership from one hour to another. Organisation would thus become more complicated, and material provision would have to be more liberal than is often the case at present. In the two or three years available for post-primary education and for pupils who are likely to retain little formal knowledge the school must concentrate its efforts on those acquisitions which are possible.

Subjects like history, geography and science present serious difficulties. In many of the schools we are describing the syllabus still shows a course to be pursued in logical order : history may extend from Roman Britain to the nineteenth century and include a treatment of constitutional and political developments which are difficult enough for gifted pupils ; geography may attempt to survey the whole world, thereby reinstating a verbosity and unreality which were so much condemned a generation ago ; science, where

it is attached too faithfully to a text-book, may fail to enlighten the daily experience of the pupil. We doubt the importance of these subjects if they are taught in this way. Their value lies in the meaning they give to the pupil's life as he lives it, and as he will experience it on leaving school. In the world of machinery and mechanical appliances, a world that is closely concerned with wages, cost of living, trade-union regulations, unemployment, trade cycles, home and foreign markets, party programmes and foreign relations, he may well be bewildered when he reflects that school gave him little or no information about these matters. The raising of the school-leaving age to 15 will make this problem even more important.

An obvious method of treatment is the Project, which would enable each school to choose its own problems, and around these to discuss those relevant historical, geographical and scientific notions which are involved. If ideas so gained are clear it will matter little that they are incomplete. The practical methods to be used—writing letters to people who can supply information, visiting the public library and other institutions, representing the facts collected in pictorial or graphical form—will take much time, but their significance will be easily comprehended. Such studies might lead up, in the final year of school life, to a study of current events both at home and abroad, in which local and national newspapers and other easily available sources would be used.

In emphasising the special problem of those pupils who profit but little from books we are emphasising the problem of a very large number. Schools for many centuries were restricted to pupils who needed some kind of "book-learning"; the rest found their training through practical occupations. Laws of

compulsory attendance have made schooling universal and the conception of school, in consequence, grows ever wider. But concepts grow slowly and the rapid expansion of compulsory schooling in the present century has outdistanced the changes inside the school, necessitating new and courageous experiments with the curriculum.

CHAPTER X

THE SECONDARY SCHOOL

Develop-
ment of
Second-
ary
education
to 1902

THE curriculum of the secondary school is influenced by a tradition which goes back over the centuries, but in the last two generations the changes in the system of secondary education have been enormous.

At the end of the nineteenth century secondary education was given in schools which, to quote the Royal Commission of 1895, were "sporadically created and unorganised". Although nobody had satisfactorily defined secondary education, it was generally understood as being intended for pupils who remained at school to a much later age than those attending elementary schools, and it embraced a more extensive curriculum. Its most distinguishing characteristic was that it charged relatively high fees, which, added to whatever endowments the school might possess, made up the income. Hence secondary education was largely restricted to the children of parents who could afford and were willing to pay the fees, so that the distinction of secondary from elementary education was chiefly one of class. It is true that many endowed grammar schools had a scholarship system which enabled a few able boys to obtain a higher education than otherwise they could afford, but such schemes varied greatly and were unevenly distributed.

The School Boards, created in 1870, soon discovered boys and girls in the elementary schools whose natural ability demanded a better provision of higher in-

struction than those schools were giving, and they devised several higher types of schools—central, higher-grade and pupil teachers' centres—which were supported by local rates and national grants ; but although they provided an education that was often more advanced than that given in some of the grammar schools, they never enjoyed the status that belonged to the older schools. Similarly, the Organised Science Schools, which were the outcome of the Technical Instruction Act of 1889, remained detached from the sphere of secondary education, although the work done was of advanced character.

Until the end of the nineteenth century the view prevailed that the nation's responsibility in education was to provide for every child a minimum skill in reading, writing and counting, so that he would have the tools of learning in his possession. From 1833 the State had made grants to extend this boon to the poor, and in 1891 had made it entirely free. But for any further instruction the pupil must pay ; it was no concern of the State. Secondary education was for those who could afford the luxury ; it could be bought in grammar schools or private schools at prices to suit all pockets, and the parent could make his own bargain.

This clear-cut division of responsibility between the State and the parent had, of course, broken down before it was openly abandoned. Under the Technical Instruction Act of 1889 the County Councils were empowered to levy rates for technical instruction, and additional grants from Customs and Excise (the famous "Whisky money") were also diverted to the same purpose. Previous to this Act the Science and Art Department in Whitehall had made grants of public money to schools presenting pupils for examina-

tions in science and art. From time to time there had been a fear that England was falling behind her manufacturing rivals in the application of science to industrial processes, and this led the State to provide higher instruction at the public expense. That the same argument might be used for other kinds of instruction was not at first realised, and secondary education remained unorganised, inadequate, unevenly distributed, and, in the case of girls, woefully deficient.

Since the Act of 1902 a new direction has been given to secondary education, and the State has accepted a policy of providing secondary education for boys and girls capable of profiting by it, no matter what the financial resources of their parents may be. It is realised now that trained capacity benefits the nation as well as the individual, and that the State cannot afford to neglect the talent of its people wherever displayed.

Expan-
sion
following
Act of
1902

The Act of 1902 empowered the County and County Borough Councils to assist existing secondary schools, and to build and maintain new ones, and the years following that Act saw a rapid increase in the provision of secondary schools. Higher Grade and Organised Science Schools and Pupil Teachers' Centres were transformed into secondary schools; many of the old grammar schools accepted the financial aid offered by the Councils; and in districts where provision was inadequate new schools were built.

The Secondary School Regulations, issued in 1904, defined secondary education as one which offered "to each of its scholars up to and beyond the age of sixteen a general education, physical, mental and moral, given through a complete course of instruction of wider scope and more advanced degree than that

given in elementary schools". This was later explained as meaning a course extending over at least four years, and including English, Geography, History, at least one foreign language, Mathematics, Science and Drawing, together with Manual Work, Physical Exercises and, for girls, Housewifery. The insistence on a minimum four-years course and on a general curriculum has been the chief guiding principle in the development of the new secondary schools.

In 1907 increased grants were offered on condition that a definite percentage of ex-Public Elementary School pupils should be offered free places in the secondary schools, a proof of the complete abandonment of the nineteenth-century view. The policy was resisted in some of the older schools where few such children had been received, and, to meet these objections, the Board adjusted the percentage of free places from a normal 25 per cent to a minimum 10 per cent. Although some schools refused the increased grants because of the conditions attached, the majority acquiesced, and the free place system was rapidly developed. Based upon the democratic principle that a State-supported school should be accessible to all who can profit thereby, this change has proved to be the most important in the development of the secondary school system. It has brought about a closer relationship between primary and secondary schools; it led, later, to a demand for, and in a few areas to the provision of, free secondary schools; and in the end it produced the logical completion of that demand—secondary education for all.

At the outset the free places were not regarded as scholarships for exceptionally able children: they were offered to those who had reached the ordinary standard of entry. But the demand soon exceeded

the supply, and the examination has become keenly competitive, with unfortunate effects on some of the primary schools. By 1931, when "free places" were changed to "special places", and were associated with a means test, the number in the grant-aided schools was approaching 50 per cent, and the Board of Education reported of their holders "that they stayed longer at school than other pupils and that they form a large proportion of the abler pupils, with the result that in the higher forms they tend to predominate". Other results are also due in some measure to the free place system: pupils now enter the secondary schools at an earlier age, 11+ being the chief year for entry, and they stay longer at school, so that there has been a steady increase in the number who complete the course.

It is clear also that the enrolment of pupils in the secondary schools is increasingly on the basis of ability, and this is reflected in the development of higher work for pupils staying beyond the age of 16. A Board of Education Circular in 1913 suggested that Sixth Form work should be encouraged and specialist teaching provided, and that pupils staying on should devote the main part of their time to a group of allied subjects—the classics, or science and mathematics, or a combination of modern languages, literature and history. In 1917 extra grants were offered for these Advanced Courses where a reasonable number of pupils was forthcoming, and to the three original courses were afterwards added geography, and a course combining classical and modern studies. This development of advanced work has led, in turn, to an increase in the number of pupils proceeding to universities.

The connection between the famous "Public Schools" and the universities has always been a close

one. Their intellectual reputation was measured partly by their success in winning Oxford and Cambridge scholarships, and, as most of these were classical, these schools gave to the classics a pre-eminence against which science and modern studies long struggled in vain. With the spread of secondary schools the competition for scholarships has increased, and classical scholarships are still the most numerous.

The Public Schools, grouped together in the Headmasters' Conference, stand somewhat apart from the national system, influencing it and influenced by it, but retaining much of their independence. Certain prominent day schools, situated in important centres of population, and also represented in the Headmasters' Conference, resemble in many ways the newer schools. They retain greater independence of government, a high percentage of fee-paying pupils and high fees, a closer connection with the ancient universities, and give a more important place to the classics. But many of them receive municipal aid, offer scholarships to elementary school pupils, and all make adequate provision for teaching subjects other than the classics.

During the development of the secondary school system the problem of examinations has been acute. Before 1917 the schools were plagued by the number and variety of these tests: Oxford and Cambridge "Locals", matriculation examinations for separate universities, a wide range of professional examinations usually designed without reference to the schools, Civil Service competitions, Army entrance tests, commercial certificates and many others. Each had its own syllabus, and the times at which they were held were so separated that the schools never seemed to be free from one or other of them.

In 1917 the Board of Education brought some order

into this chaos by recognising eight examining boards for the country, each associated with one or more universities in different areas, and co-ordinated by a Schools' Examination Council. Preliminary and junior examinations were discouraged, and two examinations, the School Certificate and the Higher School Certificate examinations, were approved, the first being designed for pupils at about the age of 16, and the second for pupils of 18. The first required a candidate to pass in five subjects, including at least one subject in each of three groups (English subjects, Foreign Languages, Science and Mathematics); the second was devised to allow a greater degree of specialisation in one or more groups.

The intention of these changes was excellent, and the examining bodies have done their work with commendable efficiency. The task of the schools was simplified and clarified, for they were set free from many vexatious interruptions. Through the first examination a pupil might, by achieving a certain standard of marks in particular subjects, also gain a matriculation exemption certificate, and also exemption from the preliminary professional examinations; through the second examination a prospective university student might receive concessions in his university course and also might win a scholarship to the university. These privileges have made the school certificates enormously valuable in the eyes of parents, teachers and pupils.

It is, in fact, this exalted importance of the certificate that has promoted recent criticism and complaint, both inside and outside the school. The examinations were intended to be qualifying examinations for all pupils who completed the full secondary school course, and were designed for the average pupil. But in practice

this intention has been frustrated. The exemption from matriculation, secured by passing with "credit" in certain subjects, rapidly acquired favour, and was sought by thousands of candidates who had no intention of proceeding to a university. It also came to have a commercial value. As the output of the secondary schools increased, and entrance into commerce and industry grew more competitive, large firms restricted their applicants to those possessing the matriculation certificate, for this device reduced their labour of selection. Banks, insurance firms, large commercial houses, large industrial concerns and municipal offices began to ask for matriculated applicants, and a term which is still defined in the dictionary as meaning the act of enrolment as a member of a college or university has come to mean a boy or girl who has passed a school examination in certain subjects and at a slightly higher level than some of the other candidates.

The complaint against this result comes both from the schools and from the universities. Many teachers assert that the curriculum is too much determined by university requirements, that the insistence on passes with credit in the first three groups tends to diminish the importance of a fourth group which contains music, art and practical subjects, and that, in consequence, the curriculum is too academic for a large number of pupils and not the best that could be devised for them. Some teachers advocate the abolition of the groups and wish to be free to construct a curriculum nearer to the needs and capacities of their pupils.

The complaint of the universities, which was forcibly expressed in 1930 in a memorandum issued by the Association of University Teachers, is that an examination usually taken at the age of 16 or less is

not a satisfactory proof of fitness to enter the university at the age of 18 or later. An overwhelming majority of university entrants pass the second examination, and the university complaint is that this is too highly specialised. They advocated the view, therefore, that the first examination should no longer, by itself, earn a matriculation exemption certificate, but that this examination should be restored to its original purpose—that of certifying that the candidate has satisfactorily completed the first stage of the secondary school course. Their further suggestions dealt with the nature of the post-certificate course in the two years usually intervening between the school certificate examination and university admission, and their intention was to diminish the evils of premature specialisation.

These proposals have led to much discussion, and while no general agreement has been reached, the Northern Joint Matriculation Board, one of the largest examining bodies in the country, has announced that, after 1937, they will require for matriculation not only a school certificate but also either a full higher certificate taken after a further two-years course, or a modified higher certificate taken after an additional one-year course. It is uncertain yet whether other examining bodies will make a similar change, but this action, which concerns the admission of candidates to the universities of Birmingham, Leeds, Liverpool, Manchester and Sheffield, is of great significance.

The proposals of the Association of University Teachers regarding the nature of the post-certificate work in secondary schools have won less agreement. The chief difficulty in the way is the scholarship system : on the one hand, the Oxford and Cambridge

scholarship examinations are highly specialised and the larger schools are opposed to changing the nature of one examination while the other stands unaltered ; on the other hand, the Local Authorities use the higher certificate examination for the awarding of their own scholarships, so that the examination is at once a qualifying and a competitive test.

The fact remains that only about five per cent of the secondary school pupils become university students, and another five per cent proceed to other forms of higher education. The remainder find occupation in industry or commerce (or, in the case of girls, remain at home) ; their formal education ceases, in a majority of cases, at the age of 16. This fact ought to be of supreme importance in determining the curriculum. The Board of Education recognises the many-sided values of secondary education : " Not merely games, but school societies, summer camps, journeys abroad, lectures, school dinners, the development of music and art, sometimes organised work for external purposes, all contribute opportunities. Most schools now have Old Pupils' Associations which in one way or another manifest and maintain the spirit of mutual interest and loyalty. The amount of service, over and above that of their bond, rendered by Masters and Mistresses, Heads and assistants alike, is beyond praise. And, again, pupils respond ; many who have but a limited appetite or capacity for serious intellectual studies or even for athletic distinction, make good members of the community and learn something of the spirit of service."¹

This praise is well deserved, and true of a large

¹ *Recent Development of Secondary Schools in England and Wales.* Board of Education Pamphlet No. 50 (H.M.S.O., 1927), p. 34.

majority of schools. Yet there are many complaints of the tyranny of the syllabus, the pressure of examination work, the neglect, especially in the upper school, of practical work, of music, drawing and scripture, and of the loss of opportunities for "browsing" and for individual hobbies. In a few extreme cases the school has reduced itself to the same ignoble position as prevailed in the elementary schools in the days of Payment by Results. The examination has become the goal of school work, and examination results are its glory. The Board's Regulations were designed to secure a balanced curriculum, but in too many cases the examination determines the curriculum. If the separation of the school certificate from matriculation exemption does anything to reverse the tendency, then the benefit will be considerable.

Function
of
Second-
ary
education

The problem closely concerns the place of the secondary school in the national life. In the nineteenth century it was a class institution, guarded by fees. The free place system has changed it into an institution for developing pupils not selected on the grounds of class but of ability, and the increase of examination tests was a natural outcome of this second phase. This view still largely prevails, and finds expression in the frequently heard complaint that some of the pupils who win a "special place" do not deserve the award, because they fail to pass the school certificate examination at the end of the course. This, in turn, has led to inquiries into the validity of examinations, and produced strongly worded denunciations of their imperfections.

Associated with the view that secondary education should be reserved to the intellectually able is the view that it should lead to a few selected occupations—such as the professions, higher clerical posts in commerce

and directive posts in industry—and has no function in preparing for humbler jobs. Those who hold this view are inclined to regard the present provision of secondary education as already in excess of requirements, an expensive luxury whose growth should be checked. Yet even on this view it is not easy to decide the exact percentage of the population who should receive secondary education; the proportion in England is smaller than in Wales, and much smaller than in Scotland.

It is clear that this view of secondary education is breaking down. During the present century the number of pupils shows more than a fourfold increase, and they stay longer at school. The Board of Education recognise, in the passage just quoted, that some of them have “but a limited capacity for serious intellectual studies”, and balance this defect by evidence that they “make good members of the community and learn something of the spirit of service”. In other words, the secondary school exists not to train pupils for a few selected vocations, but to train them for life, and its success is to be judged not only by examination results, but also by wider tests. The demand of “secondary education for all”, which seemed so remote a few years ago, is brought nearer by this new conception, but it does not mean the same kind of secondary education for all.

The growth in numbers means that there are more intelligent as well as more unintelligent pupils in the secondary schools than there were a generation ago. Intelligence is not created by multiplying schools, although it may be better directed in them. The problem of selecting pupils is still acute. Every year the special places are allotted to children of 11 on the performance of a few hours' work often done under

unusual conditions, and the successful may differ from the unsuccessful by a fraction of a percentage mark. No examination is accurate enough for such discrimination, and the conclusion that large numbers of those that are rejected are as capable as large numbers of those who are accepted is irresistible.

Modern education is also face to face with new national problems which will profoundly affect the schools. The most important is probably the decline in the birth-rate, the effects of which are already seen in a declining school population. Will the nation use this as an opportunity to economise, or will it resolve to extend the advantage of secondary education to a larger number ?

A rising standard of education should include both the abolition of defective buildings and the extension of school life. The raising of the school-leaving age to 15 is now in sight, and the further extension to 16 cannot be far off, provided that the schools can justify the claim that the care of health, the development of the social virtues and the training in practical intelligence are safe in their hands. There was a time when school meant little more than learning lessons, and Huxley's assertion that some boys and girls would be better served by going to work at the age of 12 or 13 was justified ; the modern demand for a much longer school life is to be considered in the light of the assertion that the work of the school is to protect the child's physical, moral, social and intellectual life through the years of adolescence.

Educa-
tion for
leisure

Another question which has been to the fore in recent years is the increase in the individual's amount of leisure, and the part to be played by the school in educating for the best use of leisure. Popular education, both in school and out, has always been in some

degree a preparation for leisure : a taste for reading obviously equips a man with inexhaustible resources, and the provision of public libraries, facilities for further education, swimming-baths, playing-fields and allotment gardens has steadily grown in recent times. During the same period there has also been a great extension of cheap amusements and organised professional sport, which rely more and more upon merely passive attention and do not give the satisfaction that comes from active effort and successful mastery.

It is to be doubted whether education can yet claim much success in this matter. Evening classes attract but a small proportion of the population ; playing-fields are still so few that the number of active players is a very small fraction of the throngs that attend professional matches ; the visitors to art galleries and libraries show the same disproportion. It is impossible to estimate the numbers who, at home, pursue active hobbies which are a result of school influence, but observation shows that very many who learnt drawing and handwork never continue these pursuits after leaving school. Education for leisure is perhaps the most difficult task that the school has ever undertaken, and it is likely that its importance will increase in the future.

The facts reviewed in this chapter suggest certain general conclusions : the expansion of secondary education of different types is likely to continue, and the influence of the universities on the curriculum for pupils under 16 is likely to diminish. The work will be more consciously directed to the preparation of pupils for life in a democratic state, with a deeper civic sense and understanding, for life in an industrial state where changing methods and processes require intelligent

Future
problems

adaptability, and for life in a leisured state for which individual interests in reading, music, art, hobby-crafts, gardening, physical culture and other activities must be fostered. And these pursuits must be presented to the pupils with full regard to the needs of early adolescence with its emotional and intellectual enthusiasms, its altruistic generosity, its corporate loyalties and its rapidly evolving standards of conduct and belief.

The proposal of the Hadow Report, to distinguish sharply between the academic bias of the grammar school and the practical bias of the central or modern school, is now challenged, as has been stated, by the proposal of the multi-bias school, which would include all types of pupil and provide differentiated courses as the pupils' interests and capacities are revealed. Many secondary schools are, in a measure, multi-bias, and arrange for such differentiation at about the age of 14, as the choice of the pupil for a professional, commercial or technical career becomes clear. This fact has been recognised by the Board of Education, and the Consultative Committee is now preparing a report on the curriculum best suited to those pupils in the secondary schools whose education will cease at the age of 16, and whose interests and capacity cannot be described as academic.

In some schools the numbers remaining for the higher certificate course are small, and their needs may be very different. In some cases such pupils are transferred to another school in the district, and it has been suggested that, even in a large area, it would be more economical to concentrate any particular advanced course in one school, and transfer the pupils requiring this course to it, another school in the same area being used for a different course. It is impossible

to equate a financial saving with an educational loss : some schools would be depleted of their Sixth Form, with its opportunities for exercising responsible leadership, and the training in methods of independent study is more easily given to a small group than to a large class. The schools have been increasingly successful in building up sixth form work during the past twenty years, and its destruction might prove to be an expensive economy.

It is obvious that there will be much variety of curricula in secondary schools, and no particular programme can be put forward for them all. The general course described in the Secondary School Regulations will continue to be the framework, and the trend of the arguments in this chapter supports the plea for a more generous treatment of music, art, crafts, scripture and physical training throughout the course, and for the encouragement of wider study along the lines of the pupil's interests. There are two problems of the curriculum which cause increasing controversy, namely, the place to be given to foreign languages and to mathematics, subjects of peculiar difficulty to some pupils, yet traditionally compulsory in many examinations.

That every pupil should have some training in both these directions will probably be universally agreed, but there is less agreement to the proposal that anybody deficient in linguistic or mathematical ability should, after adequate trial, be allowed to abandon them. Other subjects may disappear, but the school has clung to the theory that some special virtue lies in compulsory French, or Latin, or Mathematics. Yet even examination requirements have had to bow to necessity, and matriculation regulations can be satisfied with French *or* Latin, and Mathematics *or* Science,

although there is still much disagreement over the contention that French supplies a discipline as valuable as Latin, or that the lack of a training in mathematics is compensated by a training in botany.

In practice the non-mathematical student is in a happier position than the non-linguistic, for the various sciences give more scope to differing capacities than do the various languages. Examination requirements admit this fact and concessions are made to pupils who fail to reach the normal standard in French. But the result of compelling a boy or girl without any linguistic capacity to continue to learn French for four or five years, in a desperate struggle to reach a mediocre examination standard, remaining uninterested and untouched by the sparse literature he has read, and inaccurate in his use of the language whether oral or written, ought to make us pause before making such compulsions. For the pupil to have to spend perhaps one-seventh of his school course in such a task may be sheer waste of time and energy.

This view in no way detracts from the importance of languages and mathematics. They are man's supreme mental constructions ; they impart a valuable discipline to the mind ; they are the tools of other acquisitions, and they have far-reaching applications to human affairs. They will remain indispensable parts of the curriculum, not because they are required by examination regulations, but because of their supreme value.

Much that has been said in the previous chapter about the curriculum of the central school will also be relevant here, though of course the secondary school has a longer time at its disposal and, on the whole, its pupils will be able to cover the ground at a quicker rate, giving opportunity for a fuller treatment of detail. Many schools have established a double

stream moving at different rates, so that the slower stream reaches the certificate level in five years and the quicker stream in four. The principle is important, for haste is as harmful as delay.

The secondary school, influenced by the Public School, has always given an important place to organised games and to gymnastic exercises, for it has usually had a games field and a gymnasium at its disposal; by arranging inter-form or inter-house matches it has been able to provide opportunities for training the younger pupils as well as the highly regarded members of the school teams. Whether it is true that "to the fourth-form boy the captain of the eleven is a far more awe-inspiring figure than the Headmaster" may be doubted, for the worship of athletics so frequently imputed to the Public Schools has never been a marked cult in the day secondary schools. The claim that games provide the best means for promoting discipline and unselfishness is not so readily accepted as before. Most boys and girls, but by no means all, enjoy games; in addition to football, hockey, cricket and net-ball, there should be some provision for swimming and tennis, and perhaps fives or racquets, for there are boys and girls who may excel in some of these without acquiring much skill in the others. Cross-country running may appeal to some boys, but for others it may be a dull penance and might often be replaced by nature or historical excursions. The vexed question of the O.T.C. must be left to the schools: where membership is made compulsory it violates justifiably held conscientious objections, and its military drill is alien to the development of physical training that has been evolved for boys in recent years.

Modern opinion puts a higher value on physical training than did the teachers of a generation ago, and

Physical
pursuits

it also discerns a new kind of value. Reports have been published in the press of an experiment in a secondary school, where two classes, equal in intellectual capacity, received different courses of physical training, and were carefully observed over a long period. One of the classes had six periods a week for physical training and one period for games, the other had only one period for physical training and one for games. The extra five periods in the first case were obtained by reducing the time of the academic subjects. It is reported that at the end of the second term the first class showed an increase in mental age of fourteen months and the second of only two and a half months, and that at the end of a year the first class beat the second in all examination results except that of Latin. Such results deserve that the experiment should be repeated, for they suggest that the distribution of time in the school might be considerably altered with advantage.

With physical training should go a knowledge of personal and national hygiene, through which adolescents can be helped to understand the nature of their own physical growth, the precautions that are necessary to protect the community from disease, and the conditions necessary to the building up of a healthy and vigorous nation.

Artistic
and con-
structive
pursuits

While some instruction is generally given in art and crafts to the lower forms of secondary schools it is not uncommon to find that it ceases somewhere in the middle school, when the certificate examination begins to cast its shadow.

In those schools which have a technical bias practical occupations and geometrical drawing have been highly regarded for their utility and have gained an important place in the curriculum, but the feeling that these subjects are less important than the academic

subjects still lingers. The argument of this chapter is for a fresh evaluation of art and crafts for every pupil, alike for the training they give, the useful ends they serve and the cultural value they claim as instruments of general training. On the emotional side they can feed the young adolescents' growing appreciation of beauty; on the practical side they can satisfy the need for activity which the growing body requires. While utility will be recognised, there should be scope for inventiveness and experiment, for the appreciation of rhythm, proportion, harmony and line in construction, and an attempt to develop the satisfaction of the craftsman through self-expression.

Much of the value of such a course cannot be assessed by examination, but it should be easy to devise a test which would give a guarantee of progress and fix a definite goal of attainment. Competitive examinations tend to demand a maximum; qualifying examinations are satisfied with a minimum which leaves the school free to add what it can over and above the bare requirements. The service of the crafts to school life should be sought: the making of apparatus for the laboratory, and costumes and properties for the school play, may be as educationally valuable as any other experiences. The encouragement of individual hobbies should be promoted, and pupils who show a gift for sketching or painting, an interest in wood-carving, cabinet-making, dress-designing, weaving and so on, should be given full opportunities to develop their talents.

Occupations of this kind are clearly of importance in the aim of education for leisure, but that alone is not their justification. They are valuable enough in themselves. They demand thought, intelligent planning and perseverance. They bring a succession of fresh

problems which keep the mind employed. They give an intense personal satisfaction and pleasure in achievement to many pupils who derive little sense of achievement from academic pursuits. They are close to the workaday world and illustrate its dependence on man's labours. They can illuminate some of the instruction given in other branches of the curriculum. If the curriculum were not dominated so much by examinations the crafts would have been recognised long ago as having an importance equal to that of any other branch.

It may be thought that the variety of occupations here suggested will seem impracticable from the teacher's point of view. A class may begin together and for a time keep together, but individual differences will soon manifest themselves, and the development of self-help is all-important. If the pupil does not learn to walk alone it is unlikely that a school occupation will become a leisure time hobby in after years.

In the training of girls the arts of the home are clearly important, though here again the principle of the minimum should operate. Not all girls are destined to be home-makers, and the school cannot know their future requirements. Yet most girls will, at some time or other, be faced with tasks of home management, cooking, laundrywork, sick nursing and the care of young children; the duty of the school is to place these arts on the same level as other practical arts. The housewifery room should be well equipped, and opportunities should be sought for demonstrating its value to the school community. Preparation for a school party, planning the requirements for a school camp, short intensive courses like the annual spring-cleaning of the Headmistress's room and other tasks can be used to attract even those who dislike house-

work. The motive is important : many girls who express a dislike for housework undertake it cheerfully after marriage, because the drudgery is transformed into service for husband and children. The motive in school can never be so strong, but service for the comfort of the school can be an important part of it.

We are on more familiar ground when we discuss the secondary school curriculum in religious knowledge, history, literature and geography, for the three latter, at any rate, have won an important place. Religious instruction has suffered for two reasons : many teachers hesitate to make it an examination subject, and most teachers are less well equipped to teach it because they have had little or no preparation for the task. The result is that it is frequently dropped at an early stage, and where it is taught it often suffers in comparison with other subjects. The Humanities

With the view that it is unsuitable for examination there is widespread agreement, for most people can realise that the religious knowledge that is examined is less important than the pupil's religious experience, his personal faith and beliefs, his moral values, his attitude to life. Many would say that these questions are best left to the home and the Church, for they depend upon influences and sympathy which are not usually secured in the classroom. The boarding school seeks, through corporate worship in the school chapel and sometimes through the ministrations of a resident school chaplain, to supply an influence which the day boy may get outside school. On the whole the day school is inclined to shirk the issue ; religious instruction is confined to a brief opening ceremony every morning, and one or two lessons a week in the lower school, which are replaced later by extra lessons in other subjects.

In recent years some dissatisfaction has been expressed with the position, and attempts have been made to provide courses of instruction for secondary school teachers. The question turns on the willingness of the school to recognise the claims of religious teaching against the pressure of preparation for examinations. Its recognition in some schools is slight enough, and many pupils from the elementary schools must realise indirectly how much less important is the place it occupies than in his old school, where it appeared as the first lesson every day. In the secondary school it appears once, perhaps twice a week; it is frequently interfered with, and after a year or two it may disappear altogether, when so-called serious work begins. Thus, at the very time when serious intellectual questions are besieging him he is told indirectly that the important thing is secular knowledge. There is another result: his religious knowledge stays at a childish level while his secular knowledge grows apace, and his immature understanding is often inadequate for the strain put upon it.

The school can at least preserve for religious instruction a position in the curriculum that recognises its importance. Religious knowledge can be intellectualised, developing along with other knowledge, and so better able to meet criticism; the adolescent will always have his doubts, his yearnings, his idealisms: the school does a disservice to him if it can provide no means of helping him to face his problems wisely and honestly.

Literature, history and geography probably receive as much time as the school can afford. Adolescent interests should guide the content of the curriculum more directly than is sometimes the case, especially in literature: romantic poetry, the epic novel, drama,

biography and light essays make their appeal ; quick readers should be encouraged to cover a wide field with ample indulgence of individual preferences. Examinations have had a restrictive influence on reading, and the intensive study of a few set books has been encouraged. Opinions differ on the value of set books, but they should not interfere with the claims of rapid reading. Encouraged by a teacher who knows the tastes of youth some pupils read a large number of books, exploring class, school and public libraries for the satisfying of their needs.

History, too, should still reflect the adolescent's love of adventure and of romance. Schools sometimes err in placing before children matters far too difficult for their experience to grasp and for their intelligence to decide. The result is verbosity and learning by rote, and the text-book becomes a substitute for thinking.

During the four or five years of the course the pupil should acquire an outline knowledge of the history of Western Europe, seen in continuous development, and in the first two years at least the picturesque and romantic sides should be uppermost. The aim is not only to understand the past, it is also to broaden the sympathies, widen the outlook, and arouse generous passions. The glory of Charlemagne's court, the fight in the pass of Roncevaux, the splendour of the Conqueror, the romance of the Crusades, the mighty struggle between Pope and Emperor, the pageantry of olden times, presented in large outlines and through picturesque incident, should fill the pupil's mind with pictures of great deeds, strong personalities and unforgettable places. Out of this large world of events will emerge the sense of time, of continuity, of historical unfolding from remote causes to manifold effects,

which must precede the serious study of history. This subject should dispose the mind to cautiousness because it discerns the intricate results of human action, and it is on the stretched canvas of far-reaching events that such generalisations are made possible.

In the last two years of the course the pupil should be ready for the more intensive study of a selected period which the examination will define, and which may be used to show him more clearly with what difficulty the historian's judgments are formed, and to what bias and misinterpretation the human mind is prone. For here is the application to life : the making of history is still proceeding, and through the welter of contemporary opinion in the day's newspapers the teacher can illustrate the distortions caused by prejudice, passion and preconceived ideas, and give practice in the discipline of trying to discern the truth. While any period may be used, there is something to be said for a course which leads up to modern times and attempts to give help in understanding some of the controversies of to-day, and the pupil's responsibility as a member of society.

Geography raises fewer controversies than history. The arguments just used for a wide survey of the past also suggest that in the first two or three years of the course the teacher of human geography should attempt to show man's activities in different regions of the earth, and how physical features and conditions shape his life. As geography has grown more scientific it has been tempted to rely overmuch on technical terms and on abstractions ; the old verbosity which taught long lists of names by heart has shown signs of being replaced by a new verbosity which relies on analytical maps, charts and diagrams, with everything correctly labelled, but equally remote from an

understanding of the entity from which they are abstracted.

To young people a foreign country should be more than a memorised list of abstractions : it should be the home of interesting people who do amazing things in their particular environment. Hudson's *Far Away and Long Ago* gives a picture of a boy's life in South America in such endearing terms that the reader will always retain an emotional interest in that country, even when the time comes to understand its economic importance and its list of productions. Travel books, accounts by explorers, biography, even fiction, can be pressed into service in giving reality to distant places. Interest in far countries is an early one, and precedes the more scientific interest which calls comparison and analysis to its aid. A typhoon may be described in scientific terms : it has a deeper significance to one who has read Conrad's story. Experience is the basis of learning, but in geography it must be often mediated through the descriptions of others in both words and pictures. We may learn the names and heights of Alpine mountains, and be able to explain the action of glaciers, avalanches and landslides, but Whympers's tragic description of the ascent of the Matterhorn will stir the dry bones into life.

Descriptive work of this kind, which would give meaning to words, would prepare the way for the more systematic course of the middle school, and the observation of natural phenomena at home, such as rainfall, wind, temperature, atmospheric pressure, land elevation, condensation and evaporation, could go on at the same time. In the last two years the course might include an outline knowledge of the world, a fuller knowledge of the British Empire and of Western Europe and a more detailed study of the British Isles.

Science
and
mathe-
matics

Pride of place in secondary schools usually goes to chemistry in the case of boys and to botany in the case of girls. Of all the sciences chemistry is at once the most utilitarian and the most factual ; it is so well organised that it can be acquired to a degree by anybody with a retentive memory, and it plays such a large part in modern industry that its place in school seems guaranteed.

These are not good reasons for making chemistry the chief science in school. There is a discipline in chemistry, of course, but it is certain that an equally valuable discipline can be got from other sciences. The utility of chemistry in the modern world is not a satisfactory argument for its utility to the individual. In recent years there has been much prominence given to the importance of biology as an educational means : it deals with the living organism and therefore can be brought near to the experience of the individual.

This is not the place to raise unfruitful controversy between the advocates of various branches of science. The claims of chemistry must be admitted, but those of physics and biology are certainly as compelling. The net might be cast more widely : it is perhaps too late to hope for a revival of astronomy ; our smoke-polluted atmosphere has made astronomy more difficult in towns, and night excursions raise their own difficulties. But astronomy, a favourite study in ancient times, has the advantage that it lifts the learner's mind into an awe-inspiring world of huge dimensions, and a telescope gives glimpses far more wonderful than the chemist usually gets from a test-tube. Geology, too, can clothe the commonplace features of the earth's surface in a new dress.

Two generations ago Huxley succeeded, in his well-known *Physiography*, in compiling a general

science course which later specialisms have overcome. But the idea of a general course is returning to favour, and is being worked out in some schools. It is not a compound of the separate sciences treated consecutively, but seeks to realise the unity of science by posing problems which take the pupil into many sciences in his quest for a solution. The trouble with the text-books is that they begin by defining their boundaries and by restricting their problems to matters which fall within their own walls. The course in physics begins with a series of exercises in accurate measurements, and the course in chemistry with the explanation of terms like element and compound; a pupil beginning both together might never realise that they had anything in common.

Yet science is the record of man's effort to understand and to conquer the natural world, and the pupil should begin by realising what a wonderful world it is, and by what triumphs man has succeeded in harnessing its forces to his own use. The first claim of science to be a part of the pupil's education is that it reveals the wonders of the natural world about him. Yet from some school laboratories wonder has long since vanished. The second claim of science rests on its value as an instrument of mental discipline—in its concrete methods it may enable the pupil to realise the strict conditions of logical thinking far more surely than studies that are less concrete. But this second value is realised later than the first, and is perhaps realised best when the first has been most successfully achieved.

The curriculum, then, should begin from the experience of the pupils, using local illustration, and trying to whet curiosity in the world around. Schools in a manufacturing area might start from illustrations

quite different from those used in an agricultural area, though these concrete problems would, before long, drive both groups back to the same basic laws of science. Gradually, the separate sciences would emerge, and a school might ultimately confine its attention to one or two of them. Even so, the human side of science should still be realised, and the pupil should learn something of the pioneer labourers in the field he takes up. The spirit of science can be caught perhaps most readily in the story of its servants and martyrs.

The problem of mathematics has been referred to already in this chapter. Everybody needs some mathematical knowledge, and we rightly insist that every child shall be required to obtain it, but the minimum required in ordinary life is slight enough. The requirement of compulsory mathematics is defended in two ways: it is an important aid in the acquisition of many other subjects, not only in such closely related sciences as physics and engineering, but also in human sciences where measurement and statistical data play an increasingly important part; it is also defended by the argument that it provides a superior discipline for the mind.

Both arguments raise their own difficulties. The school seldom knows which pupils will need mathematics as a tool in later studies, and it hardly seems reasonable to impose a subject on every pupil because some of them will need it. The disciplinary argument has been discussed earlier in this book.¹ That mathematics may offer a discipline of a very exacting kind is universally admitted. Its exact definitions, its clear-cut concepts, its logical progression from step to step and its irrefutable conclusions offer to the

¹ Chapter III, pp. 38-41.

mind processes of pure reasoning which are different from those used in other fields of knowledge. But difference does not constitute superiority, and it seems credible that some minds are so constituted as to get little value from it. If so, it must remain largely meaningless in anything beyond the elementary processes, and, as in the case of languages for the non-linguistic, its acquirement is a painful struggle and yields little that can be called a permanent possession.

Those who argue against this view that such a struggle must be bracing seem to ignore actual cases : no doubt some pupils are braced by difficulties, but every teacher knows others who are made more lethargic by a sense of frustration which depresses them. The taunt that modern education would seek to remove all difficulties from the pupil's path has been largely lived down ; no subject is without its difficulties when properly taught, and the vain hope that by making a pupil learn mathematics he is being trained to face and overcome life's larger difficulties is untenable. Why should mathematics retain a privileged position which makes it a birch with which to beat certain pupils ?

The position is virtually accepted in school by the re-grading of pupils into "sets" for mathematics, and the argument here is directed rather against the examining bodies than against the school. The course for the non-mathematical pupils probably needs reconsidering, and "practical mathematics", which includes those parts of the subject which find easy illustration in models, drawing and outdoor measurement, should be taught at a speed adapted to pupils who need considerable time for the mental work to which such practical measurement leads.

First and foremost among the languages stands the Language

mother tongue, alike for its practical, social and intellectual values. There should be no more searching test of the success of the educational process than the facility it gives to the pupil for correct, forceful and attractive expression of ideas in speech and writing.

An earlier phase of language teaching, which emphasised knowledge about language as expressed in the science of grammar, is changing steadily into the modern phase of emphasising the use of language as exemplified by the actor, the orator and the conversationalist. The fact that spoken language counts for little in examinations has led to its neglect ; written work has long been regarded as important, if only for the fact that examinations in all subjects require some competency in expressing ideas on paper. Suggestions have been made from time to time that the cure for the neglect of oral work would be to give credit for it in examinations, but the practical difficulties seem to be insurmountable unless some form of internal test by the school is accepted.

Yet the recognition of the importance of oral work is spreading, and from the time that Mr. Caldwell Cook published *The Play Way* many teachers have imitated his methods of making speech a continuous exercise. In "lecturettes" and prepared speeches delivered by his boys he devised a more lively atmosphere for oral work and gave it an unexpected freshness and vigour. Continental teachers use the device with more formality, and the lucidity with which a boy can stand up and summarise a lesson or a prepared task is often striking. Dramatic work, debating societies, class discussions on a paper that has been read provide useful variations. If a pupil acquires little sense of the value of words, of the artistry of arrangement and of the economy of clarity, he is losing one of the chief

intellectual values of language study, and it is probable that no second language will save him. Language is the tool of accurate and of careless thinking, and its acquisition may be either an intellectual discipline or a confirmation of loose and slipshod habits of thinking.

One of the features of secondary education is the inclusion of one or more foreign languages, and, in this country, French and Latin are most usually taught, with German, Greek and Spanish far behind. If we ask what value the average boy or girl, whose school life ends at the age of 16, gets from a course in French or Latin or any other foreign language, the answer is not easy. There are pupils whose capacity for language is small, and to whom a second language is a burden. The necessity to include a second language in the school certificate course is said to have reduced the pass standard to a low level, yet this low barrier is still too great an obstacle for a relatively large number of candidates. These pupils, in a course lasting for four or five years, may have read little of value, and their linguistic training is slight. It may well be that they would have got more value from other kinds of work.

A foreign language is learnt for various reasons, and there are two aspects, the cultural and the utilitarian, which may be considered separately. The first implies far more than the second: it means ability to read and speak the language with reasonable facility and correctness, an acquaintance with some of the important literature it contains, and an understanding of the genius of the people who have created it. The utilitarian value can be realised by a pupil who acquires the power to read those parts of it which serve some other pursuit. Thus, many a student of chemistry acquires the power to read German chemical literature without being able to speak or write German, or to

know anything of the life and literature of the country. This distinction is accepted in the universities, where science students may be required to show their ability to understand a passage from a scientific work written in French, or German, or both. The question is whether the schools should not explore the possibility of confining the foreign language work of some pupils to reading, not merely of text-books, but of different kinds of literature. Unless they acquire the facility to read the language quickly and easily it is doubtful whether many of them will continue to study it after school. The present course assumes a capacity for language, and it produces a large number of pupils who have devoted much time to grammar and composition without mastering the difficulties of writing, and who may have read one or two books worthy of the name of literature, but so slowly and intensively that they have little appetite for more. A course which introduced them through easy children's books to short texts read chiefly for content could be made cultural: it could illustrate the life and work of the people whose language was being read.

For pupils who have real linguistic capacity very rapid progress is possible. Their more rapid rate of learning should enable them to draw away rapidly from the rest, and the school should impose upon them standards to which the others can never attain. If they begin French at 11+, and Latin not later than a year afterwards, a third language can be added in the third or fourth year.

The problem of Latin is more controversial as a compulsory subject. In a former day it almost cut off the non-linguistic pupil from higher education; and if parents were so misguided as to keep their sons at school though they learnt little Latin, it was at least

hoped that the grammar grind would provide a discipline that might bear fruit in other directions. Mr. Dooley won much fame for his classical expression of the theory: it did not matter, he said, what a boy learnt at school so long as it was unpleasant!

The criticism must be faced that many pupils get little value from a course of Latin devised in the main as a preparation for later university study. The defence that it is a good mental discipline will not stand: it is excellent discipline for some and poor discipline for others. And the interests and capacity of the pupil must be considered. If he is stupid at Latin grammar and composition the causes may be various, and one of them may be the simple fact that his mind is so constituted as to make the accident, syntax and vocabulary of another language a study of little meaning.

It should be possible to devise a course which, with a minimum of grammar, gives the pupil the ability to read simple texts, and a knowledge of the life, work and genius of the Romans. If we are to speak of the cultural value of a language course we mean that the student understands the people who made the language and appreciates their contributions to and position in the growth of civilisation. There can be little cultural value for a pupil to whom Latin means primarily a succession of exercises which contain innumerable traps for his discomfiture; rather is there danger of the growth of a sentiment of hate which may remain active long after the drill has been forgotten.

It has been shown experimentally in a few schools that the compulsory Latin required for a university Arts course can be acquired by intensive study in the two years following the passing of the school certificate examination, and this suggests also the desirability of

offering short courses in Greek. Many hold that elementary Greek is a more profitable study than elementary Latin—the essential accidence is simpler, the literature is richer, and the contributions of the Greeks to civilisation are more important. The decay of Greek in schools is a misfortune, and its restoration will only come through experiments designed to quicken the interest of linguistic pupils in its attractiveness.

The unsatisfactory position of foreign languages springs from the fact that the instruction takes too little account of natural differences in children. In the fivefold increase in secondary school pupils during the present century differences in linguistic ability have been multiplied, and the effect of compulsion is to impose a uniformly low standard of attainment. The gifted pupils are held back, and the non-gifted exhaust the teachers in the struggle to reach the required standard. The remedy does not lie in retaining compulsions, but in more sharply defining the varying capacities of pupils and devising a curriculum to meet their separate needs. And in stating the problem in these terms we have once more returned to the question of the function of the secondary school.

PART THREE

PRINCIPLES OF METHOD

CHAPTER XI

INITIAL PROBLEMS OF CLASS TEACHING

TEACHING is an art that requires long practice for its perfection. Later chapters will deal with the general principles of teaching method, and will raise problems which will concern the teacher throughout his career; the young teacher in charge of a class is immediately faced with a situation full of pitfalls, and he needs some guidance in avoiding them. He must plan his lessons, keep the class at work, prevent disorder, and give proof to all concerned that his pupils are making reasonable progress. These requirements he must meet from the moment he enters the classroom as a responsible teacher. If he is "trained" he has already studied some of these demands, but seldom with full responsibility; now the burden of responsibility is upon him, and the second stage of his training has begun.

Hence, before the general underlying principles of teaching method are discussed, some preliminary treatment is required which has particularly in mind the outstanding difficulties which face the beginner, and this is the theme of the present chapter. A teacher's "training" is inadequate for the skilled work he must attempt, and the term "probationary year" now given to the first year's work in school is a recognition of the fact, though head teachers are not always mindful of it. A doctor usually spends six years in college, and frequently adds to that a further period of practical work under supervision; a teacher may spend two or

four years in college, and the greater part of the time is devoted to the acquisition of the knowledge he will teach his pupils, while his acquirement of knowledge of the child and of the methods he will employ occupies less time.

Teaching
and
learning

Until he leaves college or university the teacher's concern is with his own acquisition of knowledge and skill; when he enters the classroom his concern is with the pupils' acquisition. The two situations are radically different, and readjustment is necessary in passing from one to the other. The student's mind is engaged with a relatively simple object and its apprehension; the teacher's mind is engaged not merely with such an object, but also with the reactions of the minds of his pupils to it, and the methods he must use to make their experience richer and more adequate. He is helping the class, let us say, to appreciate a poem, so that in his mind must be not only his own appreciation, but also some awareness of the pupil's response, difficulties and needs, together with some plan for guiding the process towards the end in view.

The teacher's mental processes are therefore infinitely more complex than the student's. If, like the student, he thinks of the poem only as a poem—which the child is to understand or learn somehow—he is no teacher. His knowledge of literature may be rich and his power of criticism acute, but unless he can discern in some measure the child's mental processes with the poem, he will fail. It is for this simple reason that the first-rate scholar may be a poor teacher. For he has to forget the erudition which would confine his attention to the subject-matter of the lesson, and to include in the same act of attention both subject-matter and pupil.

This complexity is true even in the case where the

teacher has but a single pupil, but in class teaching much more so, for the experiences of individuals can never be exactly the same, yet the teacher must hold together in some kind of unity the group of which he is in charge. The larger the group the more complex is the teacher's task, and there comes a point beyond which the complexity destroys the art of teaching and reduces it to a mechanical routine.

It follows that no two lessons on the same topic can be identical. For the object of thought in teaching is never static : it is a living process that is coloured by the past experience as well as by the present mood and purpose of the learner. Dogmatic rules are a snare and a danger, and the criticism that is sometimes heard that a course of " training " means the acquisition of such rules is unfair ; whatever may have been the faults of training colleges in earlier days,¹ they have long regarded the art of teaching as concerned with the mental processes of living children.

Teaching, then, is neither easy nor monotonous. Artists and craftsmen manipulate tangible and inert things, the teacher manipulates the living mind, with its ever-changing and ever-surprising responses and attitudes. If it be objected that many teachers complain of monotony, the reason must be that they either misunderstand their true task, or are more interested in something that is not teaching : they may be interested in some branch of knowledge and for that reason are inclined to regard the pupil's difficulties as faults for condemnation rather than for inquiry and treatment.

It is strange that teachers through the centuries have so frequently misconceived their real task and have carried on a warfare against children because they were forgetful, careless, inattentive, bored. It is

¹ Cf. Dickens, *Hard Times*, chap. ii.

natural enough for children to be uninterested in many of the tasks which adults require them to perform ; natural for them to recall more pleasant places than classrooms and more attractive experiences than lessons. The fact should neither surprise nor irritate the teacher ; it should be regarded as a challenge to his skill. Pupils no longer play truant from school, but their minds still escape along paths that the teacher must explore. It is in the solution of such a problem that teaching becomes a fine art.

It is a familiar experience to hear teachers condemn their pupils as stupid, or lazy or inattentive, and to imply that a superficial judgment of this kind is a sufficient explanation of child behaviour. But something more is required. The teacher, like the doctor, must diagnose the case, prescribe a treatment and try to achieve a cure. The doctor's patient is usually aware of his illness and wants to be cured ; not infrequently the teacher's pupil has no clear sense of his needs and does not co-operate in the treatment, so making the teacher's task more difficult. If the objection is made that the doctor's livelihood depends on disease and not on health, the answer is that the teacher might well regard his work as not dissimilar, for if all children were eager to learn their lessons, intelligent, energetic and faithful in carrying out directions then we should be able to dispense with teachers and provide libraries, workshops and wireless lessons with much saving to the national purse. It is because children are what they are that schools are provided, and teachers must adjust their attitude to this basic fact. Their task is made more difficult, as has been stated, by classes that are too large, but that is not the pupil's fault, and while it continues the teacher must devise a technique to meet the circumstances.

If all the members of a class could be occupied in pursuits congenial to them, which were devised by the school and teacher as an essential part of the experiences required to achieve the general aim, then the harmony of the relationship between teacher and class would be perfect. Such a harmony is seldom realised in fact, for it depends upon so many factors, any one of which may destroy the unity. Some of these factors are obvious and a little foresight will often circumvent the difficulties which neglect causes.

There are, for example, certain classroom conditions of a purely external character which clearly affect the efficiency of the work done and which require continual care. Laws of health are frequently ignored in the hygienic conditions of the classroom and young children are often required to sit for too long a period in postures which are inimical to physical development and to mental effort; the strain caused by noise and the disturbance created by unnecessary visitors from other classrooms are harmful; and children may suffer serious discomfort from damp clothes and boots. The evils of these and other abuses of the elementary laws of hygiene are patent, and schools still suffer from a low standard derived from a past which ignored them. Not all of them are within the control of the teacher, but such safeguards as he can put into operation are of immense importance to his work. A thermometer is as essential as a black-board, and a temperature chart should be kept. If windows cannot be kept open all day long they can be opened regularly, and the door too, so that the air is completely changed. Between lessons for which the children are seated they can spend a few minutes in physical exercise to relieve the strains set up. Wet clothes or boots may not be easily dried in the

External
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older types of schools, yet teachers have sometimes managed to obtain cheap slippers for their pupils. There is at least one elementary school in this country, and that in the poorest quarter of an industrial town that has felt the worst incidence of the industrial depression, where every child has slippers of some kind, and they are not provided by the Education Committee. Such simple essentials of health and well-being are very much the concern of the teacher and affect his work.

In addition to these general factors there are certain recurrent situations in the classroom which are peculiarly liable to create disorder and result in waste of time. The arrival of the pupils at the beginning of a session or after a play interval, their dismissal at the end of the session, the distribution and collection of books and other apparatus, the last few minutes of a written exercise when the quicker pupils have finished the task and are unoccupied—these and other incidents are constantly recurring, and the teacher must devise a system which will diminish their dangers. In many schools assembly and dismissal are governed by regulations which affect the whole body—the pupils march in and out in their allotted order, and in a large school the procedure saves much time and disorder, but once the pupils are inside their own classroom the individual teacher must be ready for those moments which intervene between the performance of specific tasks.

The young teacher should impose a simple set of rules on his class for these occasions, and explain their purpose. The pupils moving to or from their seats must do so systematically and in a definite order. Where books, pens and pencils are the property of the school, and are distributed and collected every day,

monitors should be appointed and the pupils should be taught how an orderly method saves time, friction and noise. Young children will enjoy time tests designed to secure improvement in this work, and short periods spent in such drill at the beginning will save much time later on. The problem frequently created by quick pupils finishing their tasks long before the rest, and becoming restless through waiting, may often be avoided by the setting of tasks graded in difficulty; in arithmetical examples, for instance, the first few exercises should be easy enough for all pupils, the last should be difficult enough to challenge the powers of the most intelligent, and to keep them occupied till the end of the allotted time.

Uniform rules are increasingly necessary as the size of the class increases; so long as they are confined to routine movements, and save time and effort for more important matters, they are justified. They become a snare when they are allowed to invade other activities which call not for a mechanical rule but for intelligent thought.

In addition to the situations which are created chiefly by the size of the class there are many points in the teacher's technique which may be a source of weakness or of strength. The most important factor, yet the one least open to change, is best expressed by the term *personality*, which itself includes a perplexing number of attributes. Personality evades all generalised description, for it is individual and unique, and the qualities which attract us in one person make little appeal to us when shown by another. Yet the teacher's personality should include certain necessary gifts for his work. His speech and manners should be commendable, for they will be imitated by his pupils. He needs a strong sense of sympathy towards children, an

Elements
of
technique

insight into their modes of response, for without it he will labour in vain. He should have a sense of humour which will enable him to laugh at his own mistakes and help to protect him from the absurdities of the pedant. Above all, he should have a physical and mental vitality which companionship with the young demands. So far as conscious effort can increase these qualities the teacher should cultivate them : the deeper qualities which flow from a rich spiritual nature lie beyond the range of text-book discussion.

The difficulties of teaching a class spring primarily from the fact that each individual in the group differs from the rest. He has his own interests, his own speed of working, his own degree of intelligence, his own way of response to others. There was a time when such differences were largely ignored, but their importance has been increasingly recognised during the present century, even to the point of asserting that class teaching is doomed, and that the teacher must break up the class into small homogeneous groups or into single units. The development of individual and group work in recent years has made rapid progress.

Yet the class remains, and for economic reasons must remain, and provided it is not too large it offers a stimulus and a training that are lacking in individual work. Where the teacher has the gift of vivid narration, where questioning is felt as a challenge and promotes co-operative activity, where blackboard and illustration and demonstration give emphasis and clearness to instruction, then class teaching need fear no comparison with other methods. But class teaching, excellent as it may be for meeting some requirements, is not enough, and must be supplemented by group work and by individual work. We can see the proper place of these methods in the teaching of a craft : every pupil has

his separate place at the bench, and is carrying out his specific task, but when the occasion demands it the whole class gathers round the teacher for common instruction, or a small group are called aside because they are engaged on a joint piece of work. Similarly, in the classroom itself there is a place for all these modes of teaching.

In class teaching, then, the young teacher needs to develop especially the arts of narration, questioning and blackboard demonstration as three important aids to success. Each of them is liable to its own weakness. Narration may be dull and lifeless, it may be continued too long, and it may be pointless. It requires careful preparation, and the teacher should practise it in secret, sometimes before a mirror and always with a watch, for his gestures and the time he takes need control. Better a brief five minutes of forceful narration than fifteen or twenty minutes of mediocre talk.

The teacher's questioning often fails because it is unnatural. He so often asks questions to which he already knows the answer that the child feels no satisfaction in supplying it, or hesitates before offering an answer which may evoke condemnation. The child is in an unfair position, and often concludes that silence is safer, and so the questioning results in stagnation. If the teacher is testing the knowledge of the class such questions have a place; they are an examination and not a method of teaching, and they should be confined to a definite range of work which the pupils have prepared. Variation of method and keenness of response may be promoted by devices which have long been popular, such as dividing the class into teams and counting scores, or the device of elimination which was used in spelling-bee contests. Where the answer can be given in a single word or, as

in mental arithmetic, by a number, it is a useful device to require the pupils to write the answer on a slip of paper. This method spreads the effort more evenly over the class and produces more accurate information than a show of hands.

The natural situation which prompts the question in ordinary life is a desire to know, and we generally adapt our questions to the range of subjects in which the person we question takes an interest. Hence it would be much more fitting if the pupils asked the questions, and the teacher tried to answer them. A long tradition in schools is unfavourable to this view, and in class work it has its disadvantages, for the questions of one pupil may not interest the rest. Yet too few teachers encourage their pupils to ask questions, or think out a plan whereby such questioning can be controlled.

The question as a device of teaching is designed to whet curiosity, to promote mental effort, to guide trains of thought along definite channels. It can be a means of restraining the impulsive and of arousing the sluggish pupil. As contrasted with the examining question, which looks for a correct and adequate answer, the teaching question may be satisfied with a guess, a suggestion, an incomplete answer, and the requirement so often heard that every answer must be a complete sentence is absurd. So long as there is a mental quickening, an interchange of thought between pupils and teacher, the response may vary and there are times, as Socrates showed, when the pupil's "Yes" or "No" is an advancement of the argument.

Certain obvious faults are seen in the young teacher's use of question and answer. He must keep the class engaged, and not allow a few to do the work. While listening to an answer he must have an eye on

the rest of the class, and make sure that they hear it. He must learn to use the pupil's answer quickly: it may need re-wording, or supplementing, or an ambiguity may suggest a supplementary question designed to produce greater clearness. It is a common sight to see a class, as soon as a question is asked, agog with excitement, not only holding up their hands but also standing up, leaving their desks to get nearer to the teacher, or trying to attract attention by an impulsive cry of "Please, sir". To wait for the excitement to die down is fatal: it wastes much time, and it destroys the train of thought evoked. The young teacher must set his face against the practice from the start. A quiet command, "Hands down", a simple explanation of the reasons against the custom, and then a clear order: "Those who know the answer may show me by raising one hand, but without standing up or calling out. . . . Now let us try again." Such a reproof will serve for the time being; it will have to be repeated many times before the legitimate response is made habitual, but the teacher will avoid much trouble and save much time in the long run.

Another common source of excitement lies in the display of pictures, the setting up of apparatus and the handling of specimens, all of which require due care in their use. To hold up a small picture in front of the class is to tempt the pupils at the back to come forward for a better view, and confusion is easily caused: to set up apparatus which engrosses the teacher's attention for too long a time invites disorder.

So, too, if the teacher is engaged too long in writing on the blackboard, with his back to the class, somebody will start a disturbance which may quickly spread to others. The golden rule for the young teacher is not to relax his watchfulness. A picture can be taken

round the class by a monitor, beginning with the back row. Apparatus can be set up before the lesson, or a monitor can be taught how to manage it. Specimens can be distributed like books, the teacher remaining in a position to see the whole class. When the blackboard is used the teacher must not lose sight of the class for too long a period, unless they are engaged on a task which occupies them closely. The teacher's place is in front of the class, a few feet away from the front row so that he can see the pupils on the ends of that row as well as the rest of the class. As soon as he moves from that position one or more pupils will be out of sight.

Correc-
tion of
written
work

Another important problem of class teaching is the correction of written work, which in subjects like English and History, and especially with older pupils and large classes, may become a heavy burden. Indeed, the task may become too grievous to be borne; the teacher who impairs eyesight or even health over it, or who incurs undue fatigue by it, is obviously making uneconomic drafts upon his efficiency. Yet neglect of correction soon results in inferior work by the pupils.

The fact that a pupil may give but a careless glance at the corrections so laboriously made by the teacher has led to the view that careful marking is a waste of time. There is some truth in the contention, but it is not the whole truth. If it costs the teacher more time and effort to make the corrections than it does the pupils, then the proper balance is lost and the first requirement is to restore it. It is the pupil who should be penalised and not the teacher.

Various devices may alleviate the difficulty. Not all errors should be noticed: the teacher should plan his corrections as he plans his lessons and attack weaknesses in definite order. Some corrections can

be made by the scholars themselves in class, as when in arithmetic the correct answers are dictated at the end of the lesson, or in dictation the difficult words are written on the blackboard. Sometimes the teacher will correct work during its production, moving round the class, or calling up individuals to the desk.

When the scholars correct their own or their neighbour's paper, as is frequently the case in dictation exercises, certain obvious precautions should be used. If the aim of the exercise is to afford practice in writing words correctly it would be a psychological error if the pupils made many mistakes, for the image of the wrongly spelt word will persist, and confuse the memory. Careful preparation by the pupils is required, and a good dictation exercise should result in a correct version by the majority of the pupils. But if the dictation exercise is an occasional examination test the passage should be "unseen", and the teacher will learn from the errors where the difficulties of the pupils lie. Such difficulties he will attack in subsequent exercises.

The first type of dictation, with few errors, can probably be marked with fair efficiency by the pupils, but the correction of the second will be usually too difficult for them, or at least for many of them. The pupil who is weak in spelling, and is required to mark the errors as the teacher rapidly dictates the correct form, is attempting a task beyond his powers; this type of exercise should be marked by the teacher.

The marking of composition is more difficult, because every paper will contain different weaknesses. A successful device for throwing some of the burden of correction on to the pupils is the use of a code of signs which indicates the nature of the errors but which requires the pupils to correct them. Some of the signs

used in revising printers' proofs will serve, or the teacher may invent his own : P for punctuation, S for spelling, G for grammar, and so on. The pupil has to think out the correction for himself or he may ask for help, and the extent of his revision is determined by the number of faults he has committed. Repeated carelessness can be punished by requiring him to give some of his spare time to such correction.

Even with this device the teacher's burden is still immense. It is reduced to some extent by the plan of concentrating on particular weaknesses in succession. Suppose a first composition reveals widespread errors, for example, in the use of the comma, in the agreement of verb and subject and in the arrangement of ideas in clear sequence. Here are faults which may suggest a plan of teaching for a term or more. The weaknesses might be attacked separately and special exercises devised to test the pupils' improvement. In marking exercises of this kind the teacher would be justified in ignoring other kinds of error, and much of the correcting could be done by the pupils with the aid of a fair copy.

Some teachers use the method of glancing rapidly at a first attempt, marking the chief faults, and then requiring the pupil to re-write the composition more carefully and adequately. With older scholars, in whom there is developed some power of criticism and some feeling for style, the method has its use ; but it is too difficult for the younger pupils. They have little or no power of criticism and they generally exhaust their interest in the topic with the first effort. When compositions of the essay type are written by young children it is a valuable variation merely to allow the writers of the best essays to read them to the class, no comments or corrections being made on the others. Children

will improve in their written composition given opportunities for practice, just as they do in their speech without any formal correction by the teacher.

The problem of correction is closely connected with ^{Home}work home work, which in secondary schools and in some central and senior schools is a frequent source of trouble. There is fairly general agreement that home work affords a valuable opportunity for the pupil to develop the power of independent and unaided work, yet it is sometimes a cause of friction between home and school. It often seems to parents that the school makes unreasonable demands on the child's powers and time, and is guilty of carelessness in organising such work. On one evening the pupil may have little to do—the exercises are short and easy; on another he may have far too much and sits up late in his anxiety to complete what is set. Girls are said to be more conscientious than boys in carrying out such requirements, and to be more susceptible to anxiety and its effects. There are schools which not only set tasks for every night, but also a double amount for the week-end, even for the half-term holiday week-end, and if the child defers the work as long as he can he ends his Sundays or his holiday in a painful struggle to redeem the time. If home lessons beget worry, fatigue and distaste they are a source of weakness, and parents should not hesitate to give the school evidence of such effects.

The teacher should adopt proper safeguards for home work. The length of time required for its performance should be known to pupils and parents, and a time-table should secure as uniform a distribution of tasks as possible. The young teacher should experiment in class with exercises similar to those he proposes to set for home work, and find out what the

average pupil can do in the allotted time. For very slow workers he can allow some reduction in amount ; for very quick workers he can invite the performance of additional voluntary tasks.

It is even more important that he should discuss with the class the conditions under which they work at home, the habits of work which they are establishing, and the purpose of the exercises. To see a child begin a task in a room where the wireless is turned on, and where two or three people are conversing ; to see the interruptions which cause half an hour's work to lengthen into an hour and more, is to understand how slight may be the advantage, perhaps how dangerous may be the habits that are thus contracted. Time is often the least important of the factors involved, yet schools too often regard it as the chief thing. The pupil should be advised to arrange his work at a time least likely to be interrupted by domestic duties, by visitors, or by the affairs of the other members of the family ; he should be encouraged to practise concentration during the allotted time and resist the temptations that offer themselves. Such points are seldom discussed, and many pupils fail to develop that power of independent work which the school so rightly claims as the important result.

It is obvious that the teacher should think out the tasks carefully, and not improvise them at the last moment ; the scholar should write in his note-book an exact record of what he must do ; and a monitor should be made responsible for collecting the work at the proper time.

Discipline Much of what has already been discussed in this chapter is often included under the general term discipline, once a word of dread significance to the teacher, since his alleged success or failure as a dis-

ciplinarian was often regarded as the chief measure of his efficiency. Realising that many classroom difficulties spring from physical conditions, or from other specific causes, the teacher may be encouraged to regard the problem of discipline as one for analysis, and not for self-condemnation.

Many lurid descriptions are on record of the struggles that were once a daily occurrence between teacher and class, struggles which frequently brutalised the teacher and injured the child. The question whether a teacher was a good disciplinarian often meant whether he could compel the pupils, by brute force, to do whatever he commanded, and in consequence the classroom became a place of injustice and harsh tyranny. Whatever displeased the teacher was wrong, and had its appropriate punishment. If a child did poor work because he was underfed ; if he showed restlessness either from boredom or the onset of illness ; if he whispered an answer to his neighbour from sheer kindness of heart—the “strong disciplinarian” regarded the child as a law-breaker and sought no further explanation.

The reaction against this view has, in these days, been swift and widespread ; although the “strong disciplinarian” has not entirely disappeared, the school has been made, in comparison with former times, a place of active co-operation and friendly relationships. Indeed, the reaction in some quarters is complete : instead of asserting the right of the teacher to control, some writers stress the right of the child to resist if the teacher’s requirements frustrate the child’s purpose ; instead of setting up a code of laws they advocate the abolition of laws and would give the child freedom. Bernard Shaw, A. S. Neill and Bertrand Russell, among others, have written

powerful words in support of the child against the teacher, and with some reason.

Yet the truth may be found to lie between the extremes. The school is created by the community for a certain purpose, and the teacher has a duty to the community in attempting to achieve that purpose. If the child frustrates or opposes it the teacher's task is to attempt to restore a unity that has been broken. He must do so both for the sake of the pupil who causes the conflict, and for the sake of the other pupils who may suffer. It is from this situation that the need for authority arises and justifies the teacher as a disciplinarian.

This view implies that the community is right in creating the school, and wise in selecting the teacher as its instrument, two conditions which must often rest on faith rather than on proof. For the school may fall far short of its aims, and the teacher may be an unworthy instrument. But inasmuch as the aim of the school is more comprehensive than the immediate purpose of the individual, and inasmuch as the teacher, by his superior knowledge and experience, should be able to help the child to a richer life, the restraints imposed are justified. If the community were more foolish and the teacher more ignorant than the child, then, indeed, the rights of the child would need emphatic re-assertion.

The tragedy of the school in earlier days was that punishment was enforced as a means of retribution and seldom as a means of reform. Retributive punishment, far from producing any reform, usually widened the breach between teacher and pupil : it left behind it resentment, enmity and a spirit of sullen opposition. It sought no cure and took for its model the petty tyrant who rules by force.

Such brutality did not go unchallenged, and Rousseau suggested that a just system was already provided by the working of natural law with which the teacher need not interfere. On this theory the unpunctual child will, sooner or later, miss some advantage by his unpunctuality and thereby learn a lesson. The burnt child dreads the fire ; the destructive child breaks up his toys. To every fault there is an appropriate and inevitable punishment, and the teacher can stand aside and, without loss of temper, calmly and serenely, can see the discipline of Nature taking over the responsibility.

The popular version of this theory is that the punishment should " fit the crime ", but few teachers have been content to trust Nature in this task, for her punishments turn out, on inquiry, to be unfair and often long delayed. Modern theory has progressed further, and the doctrine of making the punishment fit the crime is regarded as unsatisfactory.

If the purpose of discipline is to reconcile the pupil to the aim of the school it is not enough to ask merely what is the overt action that is the sign of his opposition. We must go further and try to understand the underlying intention. A pupil may do wrong through ignorance and misunderstanding as well as through wilful disobedience, and if the teacher's aim is to secure reform he must distinguish between such different causes. There is much truth in the contention that some wrong-doing is due to the teacher, for if he does not make clear why some actions are not to be allowed and why certain regulations are enforced, then the pupil may be guiltless of a wrong intention, and a clear explanation may set him right. There are some who believe, and they quote the authority of Socrates, that knowledge is virtue—that to know

the right will bring about right conduct. Whether we accept this view or not it is certain that one of the most positive contributions to discipline the teacher can make is to clear away the chances of misunderstanding in his pupils' minds. The meaning of the term discipline—a bond between disciples—should remind the teacher that its essence consists in a willing co-operation.

The practical application of this discussion is that the teacher's first necessity is a knowledge of his pupils, and some understanding of their attitude. The young teacher has much to learn before he can teach. He must prepare and give lessons, of course, and his first steps should be designed to give his pupils plenty of class work, so arranged that every individual can attempt some part of it and that even the quickest will be kept busy if they complete the whole in the time allowed. By this device he will have an opportunity to study his class.

His first requirement is to learn their names. He should draw up a plan of the class as the pupils face him, and keep it before him, so that he may address any particular pupil directly, and not as "the boy at the end of the third row", a description which causes other pupils to turn and locate the individual.

Certain readjustments of places will be found necessary. Boys with short sight, revealed by the way they screw up their eyes when reading the blackboard, must be brought nearer the front of the class. Any signs of deafness must be dealt with in the same way. A crude diagnosis of this kind will discover only the worst cases; more adequate examination must be left for routine medical inspection. Other causes for change may soon appear. A mischievous boy may be stimulated by sitting next to a too-willing victim: he should

be tried in another position. These changes will suggest that the teacher is watching and understanding, while retaining a reserve of authority.

The teacher needs to guard his own self-control. There are occasions when anger is righteous and effective, but the prevailing attitude should be one of quiet confidence. The tone of voice can suggest that the pupil should obey, and that the teacher has no anxiety as to the result. There should be no argument, no vacillation, no sudden exhibition of anger: if a command has sometimes to be repeated it should be spoken rather more slowly and deliberately than at first, and a slight pause should be made to see that it is carried out.

Diagnosis of the pupils must go further than this first step of observation. On the intellectual side the teacher needs to distinguish the quick and the able from the slow and dull, and a group intelligence test should be set. It will reveal those pupils of average endowment who largely set the pace of the class, the super-intelligent from whom more can be expected, and the backward and dull who will require much repetition and assistance. These classifications should be compared with the impressions of other teachers, and especially with school record cards if they are available, and any noteworthy differences should be further investigated. Factors like home circumstances, health, and temperament may also be found which will call for individual treatment.

Diagnosis of character is more difficult. In the contrast between the assertive and the submissive pupils, the pugnacious and timid, the excitable and placid, the gregarious and solitary, the teacher will find a limitless field of study, and an unending challenge to his skill. In fiction such contrasts are exaggerated

and clear-cut, but in life they are less sharply defined. We all exhibit these different traits at different times, though they are seldom well-balanced. Yet it remains true that we can describe a particular pupil as self-assertive, or pugnacious, and where the trait is unduly pronounced we can devise some special treatment. Every trait has a value in its proper place : it is the misplacement that causes trouble. Pugnacity that leads to bullying is degrading, pugnacity that fights for the weak and defenceless is ennobling, and the teacher may divert the pugnacious boy from bullying the weak to protecting them from other bullies. This process of substituting a worthy aim for an unworthy one is known as sublimation, though Dr. Arnold used it in his treatment of Tom Brown long before it enjoyed a special term in psychological text-books. In the same way, the unduly self-assertive pupil may be offered tasks and situations that are too difficult for him, and the too-submissive may be helped to gain confidence by performing tasks well within his powers.

The advantage of treatment of this kind lies in its impersonality. The teacher of old made the struggle personal to himself. He flogged the pugnacious and so gave them an excuse for further bullying ; he flogged the timid and so increased their timidity. Modern psychology shows the possibility of treatment which is designed to meet the particular case, although the correct treatment must often be a matter for experiment.

The study of individual differences is a long task, but the young teacher can begin it at the outset. If he believes that it is a task difficult enough to challenge all his powers, then he will adopt the attitude of a learner, and safeguard his professional life from the snares of routine treatment which provides no continuous interest and leaves little room for improvement.

It is important that the eager, active and assertive pupils of the class should be quickly discerned, for they are natural leaders and their co-operation is necessary. There is sound sense behind the familiar device of making them monitors, giving them definite responsibilities and limited privileges. What can be done in this respect will vary with the school and the age of the pupils: a prefect system will provide opportunities for leadership among older scholars; class monitorships and a class captain will be more successful with younger groups. Many routine duties can be allotted to them: one will look after the class library, another will be concerned with pens and ink, another with open windows, another with the general tidiness of the classroom. The aim is to train the class to manage as much routine procedure as they can, for they learn discipline, like other arts, by practising it. A teacher sometimes succeeds in much more difficult aims: he trains his pupils to continue their work when he is called away, and to start work when he is delayed in another part of the building: this is good proof of an excellent state of discipline.

Most of the familiar problems of the classroom can be prevented, or very much lightened, by foresight, common sense and a better understanding between teacher and pupils; it is no idle claim to assert that in these respects the schools of to-day show enormous improvements over those of a generation ago. But there remain, and will always remain, problems of discipline which will challenge the teacher's skill and wisdom to the utmost.

In early text-books on the problems of teaching much space was given to the discussion of "incentives" and "punishments". It was implied that these might be graded in an order of importance, so that when one

failed another might be tried. The lists did not amount to much : the incentives began with praise, and went on to a system of marks, the accumulation of which earned certain privileges either for individuals or groups, and finished with prizes. The punishments ranged from censure, through bad marks, detention, extra tasks, and usually ended with corporal punishment. There was an underlying absurdity : a boy might do good work because he saw some value in his tasks, but his reward was a respite from them ; another boy might see little sense in what he was doing and his reward was to do more of it ! The results were scarcely encouraging.

The use of the mark system both for work and conduct is still a prominent feature in many schools. It may have slight advantages ; it most certainly has serious dangers. It is simple to work because it is mechanical, although it throws a detailed burden on the teacher. It exercises a rigid tyranny over the class which is detrimental. It acts differently on different individuals : the conscientious pupil is over-strained in satisfying its demands ; the less conscientious are tempted to outwit it ; more care-free pupils are provoked into showing an indifference and even opposition to it.

No doubt incentives and punishments have a place, but their importance should not be exaggerated. It is a truism that, although they are introduced as means, there is a danger of their exaltation to ends, and the pupil who is spurred only by the hope of marks and prizes, as well as the pupil who is moved only by a fear of punishment, is well known. The motives in both cases are unworthy.

The offences against which they are aimed—laziness, disobedience, carelessness, inattentiveness and

the like—are seldom cured by external means, and can only be treated in the light of their origin. For the young teacher the most difficult is disobedience, since it is displayed to the other pupils and may spread to them. He must therefore act promptly, although he cannot do much in front of the class. Isolation of the offender is the first step: the disobedient boy has announced his separation from the common purpose of the school and the separation can be made actual by putting him in a remote corner, or, better still, in an empty room, where he can be allowed to pursue his own choice of occupation. He does not belong to the school, though the law compels his bodily presence.

The reason for his isolation should be told to the class, and, at the end of the session, should be made clear to the offender. The work of the school demands the co-operation of its members: disobedience destroys it. There are privileges as well as duties derived from the school, but he has shut himself off from both, and his re-entry depends upon his acceptance of the necessary conditions. The next step is in his own choice.

Such a procedure may sound unduly solemn, and it is only proposed where the disobedience is a seriously wilful opposition to the teacher's commands. The purpose of it is to win back the offender to a right social attitude by making him reconsider his relationship to the school, and not to alienate him further into anti-social ways by exercising a harsh tyranny over him. Both the offence and the treatment imply a degree of understanding on the part of the pupil: there still remain the young and the dull pupil who may not respond to reason.

The impulsive and thoughtless behaviour of the

young is more often due to high spirits than to wrong intention, and their treatment may call for more external measures. Thring's famous penalty for the boys who carved their names on the school desks—to do the job more carefully on the hardest piece of wood he could find and with a very inadequate penknife—suggests a punishment appropriate to the offence and a teacher with a sense of humour, and the principle is worth extending.

Small boys may be deterred by the infliction of a little pain, and so may bigger boys who are slow in understanding. Experienced teachers hold different views about corporal punishment. In some schools it has been abandoned and in all its use has diminished. Many Education Authorities allow only the head teacher to inflict it, and under regulations designed to prevent its abuse. Its defenders claim for it two kinds of justification: it is effective with some pupils who are indifferent to any other kind of punishment, and the power of inflicting it, even when the power is not exercised, has a good effect. These are not convincing reasons, for the evidence of schools which have abolished it shows that it is not indispensable. If corporal punishment is ever justified it is because it acts promptly, but perhaps more important is the fact that other methods are too difficult for some teachers. The fact that corporal punishment requires so little thought, and is so easily abused, is a strong argument against it.

The young teacher should preserve an open mind on the question. The plea that it is necessary for a few cases implies that it is unnecessary for the majority and that other means are to be found. If it is his fate to find in his class a pupil whose disobedience, obstinacy, propensity to bullying or gross misconduct seems to

require special treatment, the teacher should discuss the case with the head, and he should watch closely the effects of any treatment that is devised.

It is easier to relax discipline than to tighten it, and the beginner should not be betrayed into early concessions in the hope that they will remove difficulties. Pupils come to school expecting to be controlled, and they know that the teacher will make certain demands. If they discover that he means business, that he is a close watcher, that his Yea is Yea and his Nay, Nay, the majority will accept the situation as natural. But if they interpret concessions as weakness, and kindness as incapacity, then trouble lies ahead. Yet this does not imply any need for undue sternness in the teacher's manner or expression, or for any exaltation of the dignity of his office.

A sense of humour which will enable the teacher to laugh at himself sometimes, a modesty that will lead him to question whether he can always be right, a realisation that every pupil is a person with a life to live, a desire to solve the problems of his art—these qualities will help the teacher into smooth waters. If he can devise occupations which appeal to the child's purposes, and vary those occupations so as to prevent boredom, he will experience little trouble. If he is ingenious and original he will be able to make his classroom a place of continuous interest. If he can convey the impression that he still has powers in reserve, avoiding idle threats and frequent denunciation, his position as leader will then be secure.

A witty judge some years ago defined a teacher as "one who having learned to teach has long since ceased to learn". The thrust is a deadly one, for the teacher who ceases to learn is no longer worthy of the name, and must, in fact, have ceased to teach. The

advice of this chapter, in a phrase, is that the teacher is essentially a learner, and the objects of his study are the pupils. The beginner who keeps this goal before him is on the way to effective teaching and to good discipline.

CHAPTER XII

PRINCIPLES UNDERLYING ALL BRANCHES OF TEACHING

As in the case of other professions the art of teaching must be based on skilled investigation and the interchange of daily experience, from which general principles are to be established. Such principles the teacher must interpret and apply to the peculiar conditions of his own unique task, which is defined for him by the age, sex, number, environment and future vocation of his pupils, by the type and situation of his school, and by other variable factors.

Need for
General
Principles

The teacher is a craftsman, and the true craftsman must be free to express himself within the principles which govern his work. Just as the most original painter is governed by laws of perspective, by laws of colour mixture and by the laws of colour perception, so the teacher is governed by the nature of the human material with which he works, by the nature of the material he teaches, the activities he promotes, and by the ultimate aim which he accepts as the goal of his efforts. Yet within these limits he must be free to vary his procedure, to adapt his methods to circumstances and to experiment, or he will be in danger of sinking into a routine which will destroy the spirit of craftsmanship, and depress the spontaneity of his pupils.

Behind all the variations of classroom procedure and the countless devices of teaching (the success or failure of which is determined in large measure by

their suitability to the particular needs of the situation), there lie general principles of ever-increasing range based upon an ever-widening survey of practice. The elucidation of these principles will seem to some minds a remote and unpractical search because it leads the teacher away from his immediate task. The history of teaching illustrates its neglect : for many centuries teaching was practised by unskilled men and women, often the failures in other walks of life, and it is hardly surprising that these rule-of-thumb workers created the tradition that anybody could teach. Dr. Bell, of monitorial school fame, claimed that any boy who could read could teach, since, by possessing the correct answer himself, he could discern whether the pupil had obtained the required result. The study of general principles was not likely to be regarded with favour among such teachers : they were satisfied if they could keep order and make their pupils learn their lessons.

Nor is this tradition entirely gone. The State continues to employ unqualified teachers, and the present minimum of preparation required is woefully short when compared with that of the doctor or other professional worker. Not all qualified teachers possess the resources of knowledge, skill and experience which are requisite for their work, and many of them have little conception of the professional standpoint which would relate the daily experience of the classroom to the wider principles of education. The circulation of teachers' journals wherein " notes of lessons " are set out in detail both as to material and to method, and slavishly copied, is an unfortunate development of modern times. There can be no surer way of stopping inquiry and debasing craftsmanship : it is the mass method of industry applied to teaching, and its effects can be as disastrous as the machine-made doors and

windows are to the carpenter's skill and pride. At the same time it is true that more and more teachers are searching for principles: never was there a time when the problems of teaching were more investigated or when the craftsmanship of the best teachers stood at a higher level than at present.

Our concern here is with general principles underlying all branches of teaching, and not with special methods suitable only to one branch of material. The distinction is found in other professions: the medical man may specialise in the treatment of one part of the body, but he must link up his knowledge with the general principles of physiology and other sciences. So the specialist teacher of classics and the specialist teacher of woodwork are both parts of the same whole, and express in different ways the same general principles. It would be better for them both if they clearly understood this relationship.

The history of education shows a long search for a The general method which would solve all problems of teaching, a single master-key which would unlock all doors. While practising teachers were content to set tasks for their pupils and hear these repeated at intervals, more active educators were engaged in seeking better methods. The natural method of Comenius, the psychological synthesis of Pestalozzi, the intellectual analysis of Herbart, the auto-didactic method of Montessori, the Project Method and the Dalton Plan are but a few examples of efforts to discover a systematic method of teaching which should be of universal application. In their different ways they all emphasised the self-activity of the child and the necessity for basing education on the learner's experience. Their weakness lay in the attempt to reduce every kind of teaching to a single formula, and the value of the principle was

often lost in the formality of the design through which it was expressed. Wide claims have been made, and are still sometimes made, for each successive method ; it might almost be said that the extent of the claim has been in inverse ratio to its value : it was the vain and pompous Dr. Bell who, after visiting Pestalozzi, declared that in twenty years the Pestalozzian system would be forgotten and his own monitorial system universally adopted, so convinced was he of its validity. But Pestalozzi is still honoured for his lifelong search after general principles, and for his humility as an investigator, for as he grew older he confessed that the answer to his inquiry still eluded him. We should welcome all new systems that offer to assist us in our search for general methods, but we should not accept them uncritically. Pestalozzi's confession of failure was not heard by his followers, and they fell into serious errors ; Herbart over-emphasised the intellectual factors in learning and ignored many motives that affect the young pupil ; the Montessori, the Project and the Dalton methods have their limitations when tested under differing conditions. The teacher should beware of labelling himself by a name that implies finality in his inquiry, for there can be no end to investigation.

It is clear that in so complex an activity as the learning process there can be no stereotyped pattern, no static perfection that refuses to incorporate new aspects of truth and the changing emphasis which experience brings. The history of education shows us important stages in the evolution of method, but the end is not yet. Every particular system has been inspired by a teacher of genius, but his disciples have been only too prone to preserve the letter and kill the spirit.

Any modern discussion of the principles of method must start from the recognition of the pupil's own activity. The teacher is dealing, as few other craftsmen are, with living material that becomes increasingly autonomous ; one purpose of his work is to make his pupils, in time, independent of his help. The pupil has his own life to live, and the teacher hopes to assist him in living it more fully. There is no question of a vacuum to be filled or a clean sheet of paper to be written on, the familiar metaphors of former days ; the pupil's experience begins before he attends school and is profoundly influenced by events outside the school's legitimate sphere. The school can offer a range of experiences different from those obtained outside, but to give them their proper importance it must attach them to those already in the pupil's possession. The first general principle, then, is that the mental life has already begun before formal instruction is attempted, and the school must use the experience already acquired.

First
Principle

This principle, so obvious to us now, was for long universally ignored, alike by the theorists who regarded the mind as a blank sheet of paper on which the teacher might write what he would, and by the practitioners who drew up lists of subjects and lessons entirely remote from the child's interests and purposes. When the inspectors at Whitehall, in the days of Payment by Results, set out the detailed curriculum upon which they would examine the pupils in the six standards of the elementary school, they proceeded without the slightest regard to this principle. They devised a course of Geography, for example, for children 8 years old, which ran : " Definitions, points of the compass, form and motions of the earth, meaning of a map ". They ignored the young child's experience of spatial

relations derived from his home, familiar streets and lanes and an occasional excursion, turning geography into words and names that could only be memorised. Such procedure led, and must always lead, to verbalism.

Whatever activity the school promotes, therefore, must find its starting-point in the child's life and experience, and must be directed to a goal which has meaning and value for him. Every topic, whether it be Latin or woodwork, is bound by these requirements if we are to accept the view that the nature of the child is a factor in teaching. On this point modern education has veered sharply from the view of the past, even the recent past, but there are still some teachers who hold that the immaturity and inexperience of the child excuse them from recognising his part in the process. To shape the lesson by the limited knowledge of the beginner and to accept a goal which he approves seems to such critics a concession to weakness ; they call it " soft " pedagogy ; they say that it snatches at the immediate gain of interest and sacrifices discipline ; it will not produce the virility, the power to face distasteful tasks, to undertake Herculean labours at the call of duty, which, it is claimed or implied, was the result of the " hard " pedagogy of an earlier day.

There is no need to dwell at length on this famous controversy. Both sides have made exaggerated claims for their viewpoint, though they seek the same goal ; they desire to produce pupils who shall be strong in purpose, persevering in the face of difficulties, willing to undertake monotonous and disagreeable tasks when necessary. The difference lies essentially in the question whether interest promotes or saps effort. If we appeal to our own experience the answer is surely not in doubt : whether we learn golf or Esperanto the effort we put forth is determined by the interest we

acquire in such achievement and by the purpose and value of the acquisition. The springs of effort in the child are not very different: activities which satisfy his purposes are welcomed; those which do not are disliked. They may be tolerated for some special reason, such as avoiding punishment, but that does not prove their value. The teaching of modern psychology is clearly on the side of using interest as a spur to effort.

It is possible to make a child perform disagreeable tasks by imposing sufficiently heavy penalties for failure, but the claim that this external discipline begets in the end a habit of compliance has never been proved. It is not so much that the method can claim no success: modern opinion against it springs rather from the fact that its failures are so obvious and sometimes so disastrous that we are growing more afraid of incurring the dangers that are involved. To coerce a boy along a road in which he takes no interest and whose destination awakens no pleasant anticipation may be to invite a catastrophe: the dangers can be seen in a book like Gosse's *Father and Son*, but the tragedies are usually unrecorded except in fiction. In place, then, of the external discipline of old, modern educators seek to evoke in the pupil a habit of self-discipline by devising tasks which, even though monotonous or disagreeable in themselves, lead to achievements which satisfy the child's purpose.

On this view there is for every lesson, or sequence of lessons, a starting-point which springs from the experience and the developing purposes of the pupil, and an end which is to be seen in some relationship to his needs. For there is a question which is never long absent from the youthful mind: sometimes openly, sometimes in secret, he is asking, "What is the good

of this subject ? ” It is usually the academic subjects in the curriculum that arouse his scepticism. He can see some good in woodwork, in some parts of arithmetic, and in the practical manipulations of the science laboratory, but in the utilitarian scale of values that he adopts he may regard Latin, grammar, history and other subjects as of slight importance. The question he asks is not original, for schoolboys have been asking and answering it since the days when schools were first established ; but the traditional answer of the teacher, “ You will know some day ; get on with your work ”, is neither intelligent nor sufficient. It fails to meet a deep-felt problem, and it ignores an important source of energy. For pupils are human and they, like us, pay more heed to matters that seem worth while than to those that are to be done at the mere behest of another person. Teachers violate an important principle, therefore, when they refuse the challenge of the pupil to justify any school pursuit by arguments and reasons that he can understand. The challenge, in fact, is not always easy to meet, for the pupils’ values are largely utilitarian, and the teacher’s may be largely idealistic.

It was sometimes required that, when a young teacher wrote out the notes for his lesson, he was asked to state both the “ teacher’s aim ” and the “ pupil’s aim ”, and while the device had a certain value in reminding the teacher that the two aims might be very different in fact, it usually failed to bring out the complementary principle that the two must somehow be reconciled. The aim of a lesson is to bring the pupil’s purpose and values into a larger world. They are defectively narrow and limited ; they over-emphasise immediate gains and are impatient of more distant goals. As they stand the teacher may be unable

to accept them ; yet he dare not ignore them because of the energy they may release. He must use them as the starting-point in a process that should grow more comprehensive as the years go on, and as more distant aims become increasingly discernible. To a child of 8, history may become a pageant of almost disconnected scenes ; to an adolescent of 15, it may be a philosophy taught by examples ; and the transition from one stage to the other is made by an infinite series of graded steps. The history teacher, while accepting the child's love of pageantry, will seek to add to his sensational delight in colour and movement a deeper understanding of the motives and purposes which have moved men to action, and of the institutions which man has created in his endeavours to control and enrich society. The skill of the teacher is bound up with the successful manipulation of this transition. If he goes too quickly he will make history dry-as-dust, because he will outpace his pupils' understanding and baulk their interests ; if he goes too slowly, dwelling too long on the merely sensational level, his pupils will suffer from arrested development, and their intellectual life will be stunted.

A second general principle should be emphasised, namely, the fact that knowledge and skill are for use, not only in the remote future when the pupil goes out into the world, but here and now as an important part of the learning process. The phrase "learning by doing" is commonplace enough now, but it is a truth which must be constantly applied. The best test of learning is not the universal method of examination, which may require little more than the power to memorise ; it is the requirement that what has been learnt shall be used in such a way as to prove that the learning has been intelligent and not mechanical.

And once again it must be noticed that some school activities have an advantage over others in this respect; the teacher of arithmetic, or of drawing, or of languages can supply an endless series of exercises which, while they all differ from one another, test the understanding of the pupil and give him facility in using the new knowledge or skill that he has acquired. But even where there is no graded series of problems available, as, for example, in the study of history or literature, some device of teaching should be contrived which will fill their place; exercises must be supplied which test both the understanding of the new knowledge and its application to fresh problems. The written exercise is the oldest device of this kind, but in modern times it has been supplemented by more active tests; by dramatisation, debates, lecturettes, mock elections, mock trials and the like, all of which, in their different ways, demand that knowledge acquired in one way shall be used in another.

Technical
terms

The scheme of teaching, in its broadest outline, is now taking shape. The teacher begins a new topic by using such experience and acquirements as the pupils already possess in connection with it; he ascertains what are likely to be the most appealing motives in the child which he can call upon and use; and he devises tests and exercises which will serve both to impress the new knowledge or skill, and also give the pupil a habit of finding out the varied ways in which he may put his new power to some use. Since the time of Herbart and his disciples technical terms have been used for the first and last of these stages of the process: the first, since it explores the child's experience preparatory to offering him the new material, is called *Preparation*. The second, since it uses the material in different ways, is called *Application*. These terms,

like all abbreviations, are liable to misinterpretation. By Preparation is meant the preparing of the child's mind for the selected topic, the awakening of appropriate ideas for the apprehension of what is to come, the arousing of the right emotional mood by suggestion or other device, the stimulating of curiosity which will feed the stream of effort. By Application is meant any appropriate use of the new power which has been gained.

It will be noticed that the term "topic" and not "lesson" has been used. A topic may be completed in a single lesson period, but usually it will take more, and with older pupils it may require several periods for its completion. It is the topic that is begun by the step of Preparation and completed by the Application, and in a subject like arithmetic the step of Application may occupy several lesson periods. It is important for the young teacher to distinguish between these stages of the teaching process. They are described here in general terms because they belong to every topic of formal instruction. No matter what is taught the pupils' minds must be prepared for the subject, an application, direct or indirect, must be devised, and the whole process must be governed by an aim that is intelligible to the learner. If these requirements are properly met, then the technique of teaching will be improved.

The step of Preparation must be suited to the age and interests of the pupils, and its success is to be judged by the way in which it achieves its purpose in preparing them for what is to come. With older pupils it may take little time: they know from the time-table that they are to study a particular subject, and they may attune themselves to it in anticipation. Younger pupils may require more help, and curiosity may have

Prepara-
tion

to be awakened. It is here that the resourceful teacher can find scope for his originality, by using familiar things in a novel way. A lesson on "Surface Tension" might be opened by a teacher blowing bubbles; the class would show an interest from which would soon arise the question: "Why do bubbles burst so quickly? Could bubbles be made which would last longer?" The aim of the lesson would thus arise naturally and quickly from the Preparation, and the pupils would know what they were looking for. A lesson on Queen Victoria might begin in a hundred different ways; the pupils in one class were won by the teacher ostentatiously taking a handful of coins from his pocket and searching among them. Curiosity was immediately aroused: nearly every coin had to be put back before the right one was found, and its discovery was hailed as important. The minds of the pupils had been already at work: most of the coins were inscribed Georgius V, and their dates covered a long period; two were Edwardus VII, and one was Victoria. The date of the latter was 1900, and the earlier date of the two following was 1902, so that the date of the end of Victoria's reign was almost ascertained, and the reigns of her son and grandson were additional aids in building up a concept of time.

But important as is the function of this step of Preparation care must be exercised that it does not introduce ideas and set up trains of thought which are more engrossing than the lesson that is to follow. Irrelevancy is to be avoided at all costs. The step is sometimes referred to as the Introduction, but the term is so neutral that it may cover both a valid Preparation and an anecdote or illustration dragged in at all costs. There was a time when young teachers were advised to begin every lesson with an Introduction, and stories

are still current of the absurd and artificial ways in which beginners "led up" to the topic, when a direct approach would have saved much time. Equally dangerous is the Introduction which begets much excitement in itself, as when a teacher introduces percentages with a talk about the Cricket League tables, and disorder follows from the desire of the pupils to talk about the clubs, or when a teacher introduces decimals by comparing the decimal point to a football, and the figures to the left and right of it as the opposing teams. Under such conditions the pupils are thinking of games and not of mathematics, and what follows may come to them in the nature of an anti-climax.

The need for the step of Preparation may be illustrated from a different angle. When a lesson is due to begin there are forty or more minds thinking about anything but the topic of the lesson which is uppermost in the teacher's mind. They may be day-dreaming in a listless way; they may be actively thinking of something that has occurred in the playground and which promises further excitement. How shall the teacher win their attention to the topic and clear away these irrelevant thoughts? We have seen a class come back from the playground labouring under obvious excitement, and from various signs it was clear that a fight has been begun and was to be continued after school was over. The teacher who, annoyed by the inattention, began with the peremptory command, "Attend to me; we are going to have a lesson on the Sahara Desert", invited the disastrous failure he experienced, for not one pupil was won from the exciting speculations that might become actual after one more dreary hour in the classroom. The occasion demanded a very different beginning, perhaps a complete change of topic.

The purpose of the step of Preparation, then, is to win the pupils' minds to the task in hand, and it must often be improvised or modified to suit the prevailing conditions of the classroom. It may be long or short. Older pupils have more control over their attention, and can more easily check errant thoughts, but they, too, need help : relevant ideas must be called up from their experience and irrelevant ideas must be banished. Where the lesson is one of a series the ideas that were made clear in the preceding lesson will be recalled, and the pupils should usually be required to explain them in their own words. The step may assume different guises, but it can never be entirely omitted.

Applica-
tion

It is important also for the young teacher to distinguish between the step of Application and the device of recapitulation with which it has sometimes been confused. Recapitulation is no new step ; it is only a repetition of the salient features of the lesson or the section of work, and its necessity is increased as the section is enlarged, and the range of new ideas grows. It may be used at the end of a lesson to re-enforce the ideas discussed, or at the beginning of a lesson when the ideas gained in a previous lesson are to be further extended. But the step of Application calls for the exercise of a new power ; it turns newly acquired knowledge or skill to the solution of fresh problems and the mastery of fresh difficulties. The difference can be seen in a subject like Arithmetic : so long as the pupil is repeating exercises exactly similar in type to the one he has originally mastered he may be said to be recapitulating the rule he has learnt ; when he turns to the solution of problems, each of which differs in its arrangement of the data, he is applying the rule. Hence recapitulation is largely an exercise of memory, while Application entails an act of thinking. If the

step of Application is successfully performed it is a clear proof of the success of the teaching, and the pupil is conscious of a new ability to solve problems which would previously have baffled him. Where possible, the problems should be prepared as a graded series, so that the first may be within the scope of all the pupils and the last may challenge the powers and speed of the best workers.

So far, the beginning and the end of the teaching process have been discussed. If a teacher begins well, makes clear his aim, and devises adequate exercises which will occupy his pupils at the end, he will have safeguarded himself from the main pitfalls that await him. The steps that come between Preparation and Application must be discussed in relation to the subject-matter that is taught, for there are fundamental differences of procedure to be observed.

Earlier pedagogy ignored these differences, and regarded the teaching process as the same for all subjects. The subject-matter was divided into appropriate sections logically arranged as to difficulty; a portion was explained to the pupils, who were required to memorise it; and subsequently the work was repeated to the teacher without the book. If memory proved faulty the same lesson was set again until it was known. When a boy learnt French he was given an elementary book of grammar to memorise page by page; when he learnt poetry a certain number of lines were set which he was required to repeat in a given time, the teacher supplying such casual verbal explanations as he thought necessary.

Modern pedagogy, with the aid of psychological analysis, distinguishes three main types of lesson according to the nature of the subject-matter and the kind of activity involved in its acquisition. When we

Three
types of
lesson
distinguished

learn history, science or geography the dominant aim is the *acquisition of knowledge*; when we learn to write, sew, draw or speak a foreign language the dominant aim is the *acquisition of skill*; when we listen to poetry or music and when we look at pictures or architecture the dominant aim is to deepen the sense of *aesthetic appreciation*. In other words, using the terms of the analysis of conscious experience, lessons can be distinguished as involving chiefly one of the three aspects of consciousness, namely, cognition, conation, or feeling. It is impossible to separate these three aspects completely, and all are present in every act of consciousness. So it is in lessons: if a pupil is learning to play the piano he cannot avoid learning something at the same time about the theory of music, and his feeling attitude to music will also be affected. But so long as the aim of the instruction is to teach the pupil to play the piano, he is mainly concerned with the acquisition of skill, and the teacher must know the efficient methods by which this particular skill is gained. The situation is markedly different from that of the pupil learning the theory of music, or from that of the listener who is enjoying the performance of another.

It is quite possible, of course, for a class to change from one type of lesson to another during the same lesson period, but the teacher's technique will change with it. In some subjects the name is no clue to the particular aspect that will be dominant: the term drawing may mean at one time the acquisition of skill with pencil or brush, at another the acquisition of knowledge, and at a third the emotional appreciation and enjoyment of art. To call all these experiences by the same name is to conceal the important psychological differences between them, and consequently to blur

the technique of the teacher. The familiar subject of reading has suffered through the same reason : there are many different kinds of reading, each serving a different purpose, but unless the teacher distinguishes between these purposes he will be tempted to use the same methods in all reading lessons.

The acquisition of knowledge was for long the dominant interest of the school, and although much of the elementary work like writing and counting was a matter of skill, it was regarded as of less importance than knowledge, and its claims to a separate technique were disregarded. Skill still occupies a subordinate place in the minds of teachers and parents, except on the games field, where it has been long applauded. But in recent years it has begun to acquire an intellectual respectability, for modern psychology has accepted the standpoint William James adopted half a century ago, and asserts that the acquisition of skill is a mental as well as a physical gain.

The recognition of the importance of aesthetic sensitiveness is even more recent, and is still regarded in some quarters with suspicion. What, these critics would say, has the English schoolboy to do with the appreciation of beauty—in poetry, art or music ? Better that he should keep his body fit and his emotions subdued. So the schools promoted compulsory games and regarded emotions as dangerous forces ; encouraged athletics because they used up physical energy, but frowned on literary and artistic enthusiasms as something almost immoral. Some youths hated compulsory games and read Shelley in secret, but for the great majority art and music were undiscovered worlds. So far as literature was concerned the approach of the school was through grammar, the disciplined analysis of language ; both in the grammar schools where

Latin was taught, and in the primary schools where spelling and reading were taught, literature was a remote and an arid subject. The tide has turned, and literature, art and music are finding a place in the curriculum of all schools. The fear of emotions is as irrational as the fear of knowledge ; Nature implanted feelings in all of us, and if the school cannot attach them to the appreciation of the beautiful they may either atrophy through disuse or find an outlet in a preference for the ugly and the sordid. The training of appreciation requires a new technique in teaching.

Between the steps of Preparation and Application, then, a different teaching process is required according as the predominant aim is the acquisition of knowledge, or skill, or the enrichment of feeling ; these three types of lessons will be discussed in succeeding chapters. But it must be remembered that just as the three elements of consciousness are all present in experience, so knowledge, skill and feeling are all engaged in every teaching process. We separate them in order to clarify their treatment, but experience is one : practical skill brings knowledge in its train and awakens feeling ; emotion is guided by knowledge and prompts to action.

CHAPTER XIII

THE ACQUIREMENT OF KNOWLEDGE

THE outstanding feature in the process of acquiring knowledge is the activity of the mind towards the impressions that pour in through the sense organs. The young child uses eyes, nose, mouth and fingers as he explores his environment, and through this active exploration he accumulates experience. Gradually words come to be substituted more and more for sense impressions, but words are symbols which are effective only when they symbolise experience; the richer the sense experience of the child the more efficient will words become as an instrument of education.

Steps in
Teaching:
(a) Pre-
paration

An error of the past was to regard the acquirement of sense experience as a purely passive process, the stamping on the mind of an image in much the same way as a lens focuses a picture on a photographic plate. This error led to a mechanical view of knowledge, which was thought of in static terms as consisting of ideas which were stored by the child in his mind until they were required. These ideas were said to become associated together as described by the so-called "laws of association", and for a long time such laws were held to explain mental structure.

Present-day psychology has little to say about these laws, and stresses the activity of the mind. It is a selective instrument, choosing and rejecting among the sense impressions that are available. Not all of them are equally regarded: some are eagerly welcomed,

others are ignored by the conscious mind. This work of selecting is of direct concern to the teacher. When he sets up a piece of apparatus in front of a class for the purpose of demonstration, or shows a picture, or passes round an object for inspection, the sense impressions received by different members of the class are by no means the same, for such impressions are conditioned by the previous knowledge, the present interests and the dominant purposes of the pupils.

The older view was expressed in the tag, *Nihil est in intellectu quod non fuerit in sensu*—there is nothing in the mind which was not first in the senses. The new view would make the important addition “except the mind itself”, for what the mind brings to the learning process is of paramount importance, and the teacher’s first task in instruction is to discover the nature and extent of this contribution. From it spring a large number of the pupils’ errors, and many “howlers” owe their origin to it.

The teacher ascertains what ideas on a particular topic his pupils possess, and what further knowledge they require to satisfy their purpose, before he decides the next step in the teaching process. This first step has already been described by the term Preparation: it is the exploration of the pupils’ knowledge, which leads to the aim. A part of the teacher’s skill consists in leading the pupils to see that their knowledge is incomplete, and that new fields to conquer lie before them.

(b) Pre-
sentation

The second step has been called Presentation, for the pupil must receive the new ideas which will assimilate to and extend those he already possesses, and under the older view it was the function of the teacher to present them to the pupil. The term suggests once more a passive recipient, whereas the

mind is incessantly active in a process of apperception, relating the new ideas to the old, modifying old structures and erecting new ones. It would be better, therefore, to use a term which emphasises this point of view, such as "development" or "stage of experimentation". The whole trend of modern teaching is to devise activities for the pupil from which he may derive the new ideas he requires, finding them out by active search. The good teacher is often good because he is ingenious in ~~suggesting~~ methods to the class which will lead to the discovery of relevant knowledge. It was said of Arnold that when he taught the Sixth at Rugby there was a stream of boys going from the form-room to the library in search of books that would answer a question that had been raised or solve a problem that had arisen. In modern times we see the advantage which a teacher of science has in promoting active inquiry, for the ingenuity of the class can be constantly challenged to suggest how to set up or modify an experiment in order to carry the inquiry a stage further. The use of maps in geography, of time charts and contemporary narratives in history, graded to the understanding of the class, are among the familiar devices of method designed to promote the pupils' activity and to make the step of Presentation a process of active inquiry.

Presentation is controlled by the aim, which is best expressed in the form of a problem to be solved, and the teacher will guide the inquiry into profitable channels by suggesting the more promising routes, and by ruling out those which offer no help. The problem must be kept clearly in view and not lost sight of in the many details that may emerge; the pupils themselves should be given full opportunity for suggesting how and where a solution may be found.

The first business is to collect the relevant facts, to arrange them in order, and to assimilate them to previous knowledge.

(c) For-
mulation
or
General-
isation

A third step in the process of acquiring knowledge, which may be labelled Formulation or Generalisation, will now begin. The mind not only assimilates the new knowledge, it also compares and contrasts one idea with another, and from such comparisons emerge the general ideas and judgments which bring a higher degree of system to the mind's concepts. The goal of mental activity is systematisation, orderliness and unification, and the means thereto are comparison and abstraction. Hence opportunity should be given for reflection on the new facts that have been collected, the pupils being encouraged to state their conclusions in general terms.

This activity of comparing and expressing similarities and differences in the form of judgments is found even with young children, though it is more intimately associated with their direct experience than with school instruction. In their familiar world of play, of games and of other specific interests they are constantly formulating judgments. A young boy with an interest in engines may acquire not only an extraordinary accumulation of facts, but will also express decided views about the superiority of one type over another. Children playing together will discuss quite heatedly whether a particular action of one of them was in violation of a general rule. A child may readily accuse his companions of unfairness or deceitfulness in their dealings with him, and will bring forward the facts upon which the verdict is given. Yet in school this work of conceptual thinking in connection with formal lessons is less obvious. The facts are gathered from less familiar sources than daily experience provides,

and judgment halts. It is easier to make up one's mind about a playmate who ruins a game than about a king who claims the sanction of Divine Right, or about a constitutional struggle in which the issues are remote and abstract. It is an unfamiliar world of ideas and words to the young student ; he is driven to memorise the phrases of the teacher and the text-book ; that is, the conceptual thinking is done for him, and he merely learns the result by heart.

Yet this step of Formulation is as important as the others, and time and opportunity should be provided for it. Memory has been so exalted in the preparation for examinations that the far slower and more difficult process of thinking has been often omitted when a teacher is impatient to cover the ground. A child's thinking is liable to manifest errors : he is prone to jump to conclusions, to mistake analogy for proof, to argue from a particular instance, in short, to commit all the fallacies of simple logic. To cure him of these faults is not easy, and requires much time and patience. So the teacher is inclined to avoid the struggle by thinking for the pupil, a method repeated later in the politician's catch phrases, and the party newspaper's dogmas.

Yet the ability to draw a general conclusion from the examination of relevant facts is an activity that can yield much intellectual satisfaction. To sum up the manifold details of a period of history in a phrase, to find the best-fitting adjectives for a historical character, to express in a brief formula some all-embracing law of science or mathematics—these can be the most exciting moments in the process of acquiring knowledge. Children get much illicit fun by inventing nicknames, and they can get similar fun out of a discussion on the three, or four, or six best-fitting adjectives for a

William I or an Oliver Cromwell. Incidentally, they will discover that a nickname is a caricature and not a fair judgment, that it exaggerates and ignores, that it is only the crudest form of judgment tricked out, sometimes, by a little humour.

Such activity is also profitable. The value of a concept is that it gives more command over the concrete world from which it has been won. The botanist in a world of plants moves confidently through all the varieties : they fall into order more quickly and certainly because a system of concepts has been organised ; he can classify and name at a glance because he knows what are the significant differences. The concept enables us to deal more economically and successfully with the bewildering variety of percepts that experience offers.

Nor is it necessary to stress the importance of conceptual thinking for the citizens of a democratic State. So long as reason is submerged by passion, and argument clouded in rhetoric, so long will democracy be a sham. The schools of the nation must wage war on mass suggestion and party propaganda by themselves giving to their pupils opportunities for critical thinking both in the classroom and also in the affairs of the various school societies.

The step of Formulation completes the process of inquiry by providing the answer to the problem with which it began. The aim is now achieved, and the pupil stands on fresh ground. The new knowledge is for use.

(d) Appli-
cation

The final step, that of Application, has already been described in the preceding chapter. Knowledge that is not used will soon fade from consciousness, and the teacher will seek an application both in the setting

of problems and in the acquisition of further knowledge.

This general description of the phases of activity involved in the acquisition of new knowledge has made use of four technical terms—Preparation, Presentation, Formulation and Application. These terms are derived from the well-known Herbartian method of last century, and after enjoying a spell of popularity they seem to be falling into disuse. The claims of Herbart and his disciples that they had constructed an art of instruction in accordance with the laws of mental activity, and that the steps were to be followed in the teaching of all subjects, have been disproved. Professor Findlay showed, at the beginning of this century, that the psychological factors involved in the acquirement of skill were very different from those involved in the acquirement of knowledge, and that the technique of instruction must differ. Still later, Dr. Hayward showed that a third type of teaching, in which the primary concern of the pupil was neither with knowledge nor skill, but with the enjoyment of art, must be separated from the other two. In speaking of the Herbartian method, therefore, we do so only with reference to instruction whose aim is the acquirement of knowledge.

Herbart's work is of importance in the history of pedagogy, and his attempt to base a method of instruction on an analysis of the learning process has exercised considerable influence on later writers. He divided the material of instruction into "method units", not lessons, each unit containing one general truth to which the aim would point. The statement of the aim he regarded as of first-rate importance; and it was to have a concrete content, related to the child's

Herbart's
contribution

existent store of ideas. From this statement of aim, which the method unit is to realise, Herbart claimed important advantages for teacher and pupil. It helps the teacher to select the content of the lesson; it arouses in the pupil a state of expectation, helps him to recall his own relevant ideas, and, because he knows the goal, enables him to apply his own mental energy to its achievement. Thus the pupil's interest, understanding and volition are engaged.

Herbartian writers usually divide the method into five steps, making two steps, Association and Generalisation, of the one called Formulation above. In Herbart's words: "Instruction must care equally and in regular succession for clearness of every particular (Preparation and Presentation), for association of the manifold (association), for coherent ordering of what is associated (Generalisation), and for a certain practice in progression through this order (Application)".¹ The actual number and names of the steps are, of course, less important than the attempt to describe the working of the mind. From the presentation of orderly arranged particulars, designed to promote clearness, without which "there could be no system, no order, no relationship", the mind passes to the apprehension of general ideas, and strives to express an answer to the aim. Herbart realised that this complete cycle is not always possible. "We must be contented in earlier years", he said, "with not attempting to give what we call system in the higher sense, but must, on the other hand, so much the more create clearness in every group; we must associate the groups the more sedulously and variously, and be careful that the approach to the all-embracing reflection is made equally

¹ H. M. and E. Felkin, *Introduction to Herbart's Science and Practice of Education*, p. 108.

from all sides." In the final step of Application we return once more to particulars, completing a process in which "everything must be in its place, ready to be found and used at any moment ; nothing must lie in the way, and nothing, like a heavy load, impede useful activity. Clearness, association, system and method must rule there."

Herbart, in constructing a method derived from psychological analysis, achieved what Rousseau had asked for in the *Émile*, and what Pestalozzi had attempted at Yverdun. Many of the principles he enunciated are still valid : he discerned that the starting-point is to be found in the pupil's own experience and knowledge ; he described the rise from the perceptual to the conceptual level and the consequent greater mastery of the perceptual ; he showed the different contributions to be made to the learning process by the teacher and pupil, and he emphasised the fact that the aim must be related to the pupil's purpose and guide the activity to its end. The teacher can still get sound guidance for his method by attempting to follow these technical steps.

At the same time Herbart's analysis is over-
intellectual, and assumes learners who are eager for
knowledge. There are, of course, disinterested learners
who are consumed by the passion to know, but they are
not found in large numbers in school. The majority
will seek knowledge when they require it for a practical
end, just as they will avoid the labour of thinking until
they find themselves up against a difficulty which
baffles them and makes them uncomfortable. Hence
when a Herbartian writer offers us a sample lesson
on the Honey Bee, and begins straightway with the
statement of aim, "To-day we will learn about the
honey bee", assuming that the learner's mind will

Criticism
of
Herbart

spring to attention, that related ideas from the pupil's past experience will flow into consciousness, and that the lesson will follow smoothly the steps marked out, the modern teacher will protest that an important condition of success has been omitted; he must first make sure that his pupils want to learn about honey bees. If they have kept a hive, or helped to capture a swarm, or been stung, the teacher might have some hope of active response!

The pursuit of knowledge follows the basic needs of mankind and springs most easily from those instinctive urges which determine human interests. The list which William James gave as the child's native interests is at least picturesque if disappointingly small—"living things, moving things, things that savour of danger and of blood"¹—but fortunately this brief list is lengthened by the growth of acquired interests in a rapidly extending series which grows out of the native interests. But some interest other than the teacher's invitation to learn about bees must be found if children are to participate actively in the search.

A second defect of the Herbartian method is its suggestion that the step of abstraction or formulation of a general truth is a comparatively easy one to take. When the presented ideas are sufficiently clear and adequate, and the comparisons and associations are made, then, according to him, the abstraction seems to follow without trouble. But the history of the growth of knowledge shows how long and difficult may be the effort to establish a general truth. What he is describing is the growth of a concept, an abstraction, and he traces the passage from the concrete particulars to the universal which contains them. Yet in the growth of concepts there is no finality: the mind moves from a

¹ *Talks to Teachers.*

greater degree of concreteness to a greater degree of abstraction; subsequent experience will enrich the concept and bring to it new relationships in its extending generality. If the student will trace the growth of a concept in his own mind, taking any simple abstract term like truth, he will see how its first meaning was established in concrete particulars and how slowly it has acquired its present degree of generality and abstractness for him.

Now besides leading to the growth of concepts cognitive activity seeks to establish true propositions, to prove new truths, to solve problems by a process of logical argument which shall be free from the fallacies that beset it. In such a case the step of Formulation is the most difficult one to take if an unassailably true conclusion is to be reached, and the history of every science is rich in illustrations of the fact. While it is a long step from the pupil solving a simplified problem in the classroom to the scientist attempting to establish a new truth, the two processes differ in degree rather than in kind.

Herbart's
analysis
and the
reasoning
process

The name scientific method has been given to the processes of inductive and deductive thinking by means of which man solves his intellectual problems, and an account of such a process shows some significant differences from the steps described by Herbart. An easy and popular illustration lies to hand in the detective story, from which the teacher may gain some profit.

Detective fiction owes some of its popularity to the ease with which it awakens the curiosity and interest of the reader. It starts from James's native interest in "things that savour of danger and of blood". An unusual event is recorded, a mysterious happening occurs, and the reader's mind is caught by a problem

which he would like to solve. The conditions of arousing curiosity—of blending the familiar with the unfamiliar, of the unexpected event happening in quite ordinary places—are carefully observed, and the reader is immediately compelled to give some degree of attention. This step corresponds closely to Herbart's Preparation, and from it emerges at once the aim, to discover the criminal.

The second step consists of a more careful examination and definition of the problem by collecting all the relevant facts, and the detective begins his exhaustive inquiries : he must collect finger-prints, observe foot-prints, photograph the place of the crime, take evidence, and so on, in the hope that out of these inquiries some significant hint may emerge which will lead to a solution. The good detective is not yet ready to theorise : all the facts must be collected and arranged impartially, and the smallest of them may yet prove to be the most important. This is Herbart's Presentation, and the activity of the detective is a reminder that the name should not suggest a passive pupil in the classroom.

In the third step the detective shapes a hypothesis which will fit the available evidence, and by its aid the facts will take on a new significance. A hypothesis is not proof, and more than one hypothesis is usually possible. So the detective of fiction keeps his mind free from bias, and reviews the facts in turn under the light of each hypothesis, decides which one offers the best chance of a solution, and for the time puts aside others which seem less promising. The amateur detective, like the child, is more impatient, and is inclined to accept the first hypothesis that occurs and be satisfied without further inquiry.

There now comes a fourth step, not found in

Herbart's scheme, and yet indispensable in critical thinking. The implications of each hypothesis must be developed and tested. If X is the criminal, then what seemed to be a satisfactory alibi must yield somehow to more thorough investigation, and new facts must be unearthed. For proof must be made complete, alternative hypotheses must be proved wrong, and the case must face the probing of the defending counsel.

A fifth step may or may not be possible. In detective fiction final proof is usually forthcoming: the criminal confesses his guilt and the reader lays down the book with the realisation that the problem is finally solved and that his impulse of curiosity has run its course. In some scientific investigations experimental verification of the hypothesis is possible, and its implied results can be obtained and demonstrated. Yet this is not always possible, and rival hypotheses may remain in the field for many years; in actual life we are not always certain that it is the criminal who pays the penalty.

In teaching, the step of Application would follow, and the work would be complete. This account of a process of reasoning reveals it as being a much longer and more laborious affair than the acquirement of a general idea, the Herbartian steps being inadequate to describe it. If the teacher is attempting to enrich the pupil's understanding of a general term like area, or volume, then the Herbartian steps will assist him; if he is attempting to lead his pupils to discover the scientific law that the volume of a gas varies inversely with the pressure, then the testing and final verification of the hypothesis must occupy an important place in the process. Misunderstanding of this difference has probably led to some very unscientific teaching of science in schools. Teachers are not unknown who,

from the evidence of a single experiment, allow the pupils to suggest a hypothesis and then proceed to accept the hypothesis as truth without further inquiry. Young people are only too prone to accept guesses without proof ; it is unfortunate that a subject which was introduced into the curriculum partly on the plea that it would provide opportunities for critical thinking should so often neglect the advantages it offers.

Danger of
stereo-
typed
method

It is clear that the method which aims at the acquirement of knowledge is no stereotyped process to be confined within a single rigid pattern. The teacher must meet the situation as it develops, and the step of Preparation may sometimes reveal an unexpected deficiency which will change the procedure from that anticipated. He is shaping a process, and he must be alert to direct it into the most profitable channels. It is the process that matters, and the real test of teaching skill lies in the kind of mental activity he is stimulating in his pupils, in the pleasurable activity they are experiencing, and in their developing apprehension of the subject-matter. If there were any method of assessing these gains objectively, teachers could be evaluated with much more certainty than at present, when examination results are often the sole criterion.

And not only is any one type of pattern to be deprecated but the steps in the teaching process are not so rigidly separated as our description might suggest : the mind does not wait till Presentation is complete before association and comparison begin ; nor does the pupil stay at comparison before abstraction is on its way. The mind, like the weaver's shuttle, is continually moving backwards and forwards in the warp of experience, and the pattern develops as the different strands fall into place. Once the mind

realises that there is a problem to be solved, a solution, or partial solution, or guess will arise, and will influence subsequent inquiry. The teacher, like the writer of detective fiction, usually knows the answer to the problem set, and is tempted to short-circuit the process, but he must learn to wait, to suggest, to help, but not to tell merely because it would save time. Rousseau's paradox of losing time wisely still holds good.

It is because teachers are so often inclined to tell that Professor Armstrong advocated the Heuristic method half a century ago, by which the pupil was to find the answer to his problems by his own unaided efforts. When science first became a school subject it was often taught without the laboratory practice which provides first-hand contact with concrete things. In consequence it became a list of facts and technical terms to be memorised ; discovery and experiment played little part. The Heuristic method attacked the evil boldly : instead of the pupils being told everything, they were to be told nothing. The teacher was to set a problem for them in the laboratory and then stand aside while they discovered the answer. Critics have been somewhat scornful of the proposal, but they might have saved some of their darts for the evil which the method was designed to correct, for anything more dreadful than the method of teaching science in the eighties and nineties of the last century would be difficult to find ; the spirit of the Heuristic method is at least a valuable corrective. But it is obviously impracticable for constant use : it is uneconomical in time, and it allows mistakes of method, of argument and of verification to continue too long unchecked and uncorrected.

The acquirement of knowledge includes the addition of ideas, the enlarging of concepts and the more efficient

Acquire-
ment of
know-
ledge at
different
ages

use of critical thinking. For pupils of different ages the emphasis on these different aspects will change : in the infant school it is the addition of ideas, the extension of experience, that is important. The Montessori method is right in its emphasis on sense-training at this stage, for the sense-experience of most town children is too limited in range to provide a basis for an education that rests on words. Yet it is a poor substitute for the sense-training that is best given by contact with open-air life, where colours, shapes, sounds, smells and tastes are experienced in the rich variety of natural phenomena. Until we move our schools to the country we must be content with an artificial sense-training, but the possession of a garden and easy access to a park would offer observation of trees, flowers, birds, insects, clouds and shadows, and give a richer environment. Fortunate is the child who knows town and country, valley and mountain, moor and seashore : he is laying a foundation of varied experiences that will give meaning to words, and make them a more accurate tool of learning.

The extension of ideas goes on throughout the learning process, and in the junior school the clarifying and enrichment of concepts is also proceeding. The pupil's tentative experiments with the use of general terms will be noted. Binet showed that the child of 6 describes articles in terms of use—a knife is to cut with, a fork is to eat with, a snail is to crush ! But at the age of 9 more exact definition is attempted : an article is seen in relation to other things, and chairs, stools and sofas are thought of as a group of objects that are bound together, in spite of their differences, by the common function they serve. The accumulation of ideas begets the need of classification ; comparisons are made and the power of abstraction grows.

The formal lesson leading to a generalisation becomes possible, although the exercise should be kept closely related to direct experience.

In post-primary schools pupils are capable of more difficult exercises, although some in senior schools will be much less capable of sustained intellectual work than the selected pupils of secondary and central schools, and should have tasks adapted to their powers. But before the age of schooling is over all pupils should have some training in logical argument, and some exercise in detecting simple fallacies and erroneous reasoning. In debates, in the analysis of newspaper articles, in the formal study of history, geography, science and mathematics, there are opportunities enough for the exercise of the critical faculties, and in the period before the end of the school life there is no more important intellectual task than this.

It remains to illustrate briefly some of the principles that have been discussed in this chapter. It is not proposed to offer a scheme of lessons for adoption : ready-made lessons are apt to fit as badly as ready-made clothes, for no two classes are alike, and their response will differ. But the teacher, in thinking out his procedure beforehand, must ask himself how best he can hope to arouse the active efforts of his pupils, and exactly what aim he hopes to achieve in the time at his disposal.

Suppose a teacher is required to give a simple course in English grammar in a junior school, and that his pupils will be expected to learn the names and functions of the different parts of speech. Grammar has earned a bad reputation in the elementary school, partly because it was so badly taught there a generation ago, and in consequence it is to-day much neglected.

Illustrations of method :
(a) a topic in grammar

It may easily become a dull task in which the pupils take little interest ; our purpose is to make it into an active pursuit. This particular piece of work shall be on the adjective, and the aim shall be to understand its function.

The pupils already use adjectives without knowing their name or without thinking about their function, and we can employ their knowledge straightway in the step of Preparation by using a device always popular with children of this age—a guessing game.

So the teacher begins : “ I went to a shop to buy a cake, and the shopman asked me what kind of cake I wanted. I will tell you the first letter, c, and you must find out what he gave me.” There will be no lack of guesses, and we shall discover what a variety of cakes there is: chocolate, currant, cream, crisp, caraway, and so on.

“ I went to the library and asked for a s . . . book. What kind was it ? ” Again the words pour in : a book may be short, serious, sad, silly, sentimental, shocking, and so on. This is excellent vocabulary practice, and some of the words may be written down for practice. The game may be played with many variations : a boy who guesses correctly may take the teacher’s place and set the question, yielding his place in turn to the next successful boy.

At this point the teacher may define the aim more clearly in some such words as : “ We are going to find out the use of words of this kind and learn a name for them ”.

Presentation may begin by asking the pupils to open their writing-books ; there is some thinking to be done, and paper and pencil will help. They are asked to write down one of the sentences already used and to underline the special word. On the blackboard

the teacher writes " a short, serious, sad, silly, sentimental, shocking book ". The pupils can be required to write down one or more similar lists—for a dress, a ball, and so on.

Association with previous work on nouns is suggested for comparison. Then we were using the names of things, but now we are using a different kind of word. How do they differ ?

The step of Formulation is at hand, and it can be made more valuable by requiring each pupil to write down a word or phrase which explains what these words do. (Describing words ; distinguishing words ; these words describe nouns ; etc.) Such words have their own name : they are called adjectives. So we can say that adjectives are words that describe nouns.

The step of Application that follows may occupy considerable time, and may be varied in different ways. The pupils may be required to pick out the adjectives in a narrative, or to substitute new ones for those used. Or the guessing game may be utilised in a different way : an object in the room may be described by three suitable adjectives, and the pupils must give the name : blue, long, thin, sufficiently describe the register ; white, round, soft, describe the chalk. Better still, the pupils should be required to give the adjectives and the teacher to name the object.

The liveliness of such a lesson is at the beginning and the end ; Preparation and Application take up the greater part of the time and the work of Abstraction is easy ; but if an example of teaching arithmetic is taken it may be found that Preparation is brief and Abstraction more difficult.

Suppose the aim is to make clear the essential property of equivalence of fractions, without the understanding of which the addition and subtraction

(b) A
topic in
arith-
metic

of fractions will be done mechanically. The child discovers early enough that two quarters are the same as a half, for the fact is obvious to him in the division of an orange. But when he comes to learn the notation of fractions in school it is not always realised that the equivalence of such expressions as $\frac{2}{3}$, $\frac{4}{6}$, $\frac{8}{12}$, is not easily recognised by him.

The method that consists merely of telling him that we may multiply both parts of the fraction by any number without altering its value is likely to darken understanding. Whenever he has multiplied a number before, he has altered its value, and it seems irrational that fractions should behave differently. He needs time in which to grasp the meaning of what he is doing, time to think out and express in his own words the reason for this peculiar behaviour.

We may begin, therefore, by requiring the pupils to draw a line $\frac{3}{4}$ inch long, a second under it $\frac{6}{8}$ inch long, and a third $\frac{1}{1\frac{1}{2}}$ inch long. By the time the third line is drawn somebody will be exclaiming with surprise that they are all the same length, and the discovery will arouse interest.

The discovery is a challenge which provides the aim: Why is it that fractions which are written so differently turn out to be the same?

We can write down what we have found out, that $\frac{3}{4} = \frac{6}{8} = \frac{1}{1\frac{1}{2}}$. For the sake of the slower pupils we can work out another example with the ruler, this time with eighths, when we find that $\frac{3}{4} = \frac{6}{8}$, or with twelfths, when we find that $\frac{2}{3} = \frac{4}{6} = \frac{8}{12}$.

Formulation will be starting. It will be obvious that what is happening is that the inch is being divided into smaller parts, and that more of these parts are being taken, thus keeping the amount constant. But this is known only of those examples provided by the

ruler, and does not tell us how to get equivalence in a case like $\frac{3}{8} = \frac{1}{\frac{8}{3}}$. The formulation must go further and give us an exact rule.

This will be soon forthcoming. Some pupils will see that in the example $\frac{3}{4} = \frac{1}{\frac{4}{3}}$ we have made the pieces four times as small and must therefore take four times as many of them.

The rule can be tested with the other examples $\frac{2}{3} = \frac{1}{\frac{3}{2}}$. We have made the pieces four times as small and must therefore take four times as many of them. So in the case $\frac{3}{8} = \frac{1}{\frac{8}{3}}$ we have made the pieces three times as small, and must take three times as many of them, *i.e.* 93. This can be verified quickly by the use of squared paper.

The pupils may now be required to formulate the rule in writing, so that each may attempt to express it clearly in his own words. This exercise can be a time of lively competitive effort, for there will be inaccurate and irrelevant suggestions, and a keen desire to provide an acceptable statement. Even when a statement like the following is finally devised, "Two fractions are equal if the numerator and denominator of one when multiplied by the same number give the numerator and denominator of the other", the teacher can still puzzle the pupils by stating that there is an important omission, and he will be an alert pupil who discovers that the rule works also in the opposite direction, and that the words "or divided" should be added after "multiplied". And a still further modification may be required to include the equality of, say, $\frac{4}{6}$ and $\frac{2}{3}$.

Practice is provided by exercises in changing fractions. The term "common denominator" is introduced, and the pupils are equipped for a wide range of tests involving the comparison of fractions,

and the new knowledge is applied in the succeeding sections dealing with addition and multiplication of fractions.

It may be objected that methods of this kind take much time, and that the rule could be taught without delay. Not only is economy of time claimed by the critics, but also equal facility in the final performance, since the step of application is common to both kinds of teaching. The full answer to this claim would be a long one, and must be given briefly. Unintelligible material is memorised with more difficulty than intelligible material and is retained with much less certainty and accuracy. The performance of routine operations with words and numbers, without understanding the *rationale* of the process, is a sure way of promoting stupidity. The withdrawal from the child of the opportunity to practise a process of logical thinking, simple as it may be, is a poor preparation for life. The history of schooling in the nineteenth century illustrates these points clearly : it was in the era of Payment by Results that these economical methods flourished, and the memory was stored with definitions and rules supplied by the teacher and the text-book. The results on the pupil can be ascertained from the reports by Matthew Arnold and other inspectors.

(c) The
teaching
of science

It is unnecessary to discuss in any detail the procedure in the teaching of science, for the inductive method which proceeds from concrete particulars to the formulation of a general law and its application in human life finds its clearest examples in science. The first interest of the pupil in science springs from its everyday utility : it explains why motors turn, electric bells ring, how periscopes enable one to see over walls and wireless sets catch and amplify the sound waves that come from every corner of the earth. In the

environment of every child scientific instruments are at work, and there is no end to the wonders they provide, and the interested curiosity they evoke. It is from such everyday experience that science in school should begin, and the first problems it attempts to solve should be problems that have already suggested themselves to the pupils. But the body of knowledge which each separate science has built up in systematised relationships and a hierarchy of extending generalisations is an intellectual achievement remote from the early manifestations of practical curiosity which steps over the bounds of particular sciences.

Every scientific generalisation unites a vast number of different instances and devices which it explains. The truth that light travels in straight lines (we may disregard the modifications which the Einstein theory has introduced) and may be converged by a lens is perhaps first revealed to the child in his proud possession of a burning glass which can be made to set alight inflammable material. The fact that a bottle in a shop window has, on occasion, been the cause of a fire, is a similar phenomenon. Spectacles, magnifying-glasses, telescopes, field glasses and other instruments make use of this fact. Every pupil, at one time or another, has had some relevant experience, and the school can expand it even if it possesses little more than a few lenses of different strengths, from which a magnifying instrument can be constructed.

In this early teaching of science the step of Preparation will obviously take little time, for the normal boy and girl are eager to know about things that have interested them, and which can be shown to perform useful services.

It is the step of Presentation, the examining and experimenting with the materials that have been

assembled by teacher and pupils, which will occupy a large part of the process, and the teacher has an easy task in securing the active co-operation of his class, for the value of the inquiry will be manifest to them.

Formulation may be attempted, even at this early stage, for the concrete nature of the problem will stimulate the pupils to suggest an explanation that covers the varieties of the phenomena observed, and an application that turns to the making of an instrument which will make use of the general principle that has been elucidated is an excellent conclusion to the section.

It is in the later stages that the exacting demands of accurate Formulations become important, and the separate sciences are realised as subjects of systematic study. But even in this stage of post-primary work science too easily becomes academic and abstract, and, perhaps, too inhuman. Science has been the work of scientists, and in their patient labours, their ingenuity, their unconquerable determination, the young student can still catch a glimpse of the spirit which led them to success and feel that the facts of science are interwoven with their labours. The history of science and of some of the chief scientists should find a place in the curriculum.

(d) The
teaching
of history
and
geography

The methods of history and of human geography will obviously differ from those of mathematics and science with their exact rules and verifiable laws. For in human affairs ideas are more vague, terms more fluid, and problems more remote from the direct interests of young people.

In the junior school the teacher must be content to create a "picture", and the "plan" must wait. Hence the importance of method lies in Preparation and Presentation, in the successful assimilation of new ideas, rather than in any process of generalisation

which will give the solution of a problem, or of Application that will make use of it under new conditions.

The child's experience of the present and the immediate past is to be extended to a remoter past ; the keys to this distant world are imagination, sympathy and understanding. Hence the biographical method of teaching history in the early stages has won much favour, for the child's knowledge of and interest in persons is greater than his power to understand movements. He can gain some idea of the past in learning about the daily life of individuals who helped to shape it.

The teacher of history will not always find it easy to make the dry bones live, to re-create a past which will be felt as real. He needs something of the actor's gift of living inside the portrayed character, and of the orator's art of arousing the emotions of his audience. With such gifts he may rely largely on narration ; without them he must find another way. But narrative alone is never enough : history is recorded in books and manuscripts, in pictures and stones, and these tools, especially books, must be made use of. They give more permanence than narrative : they are for close study and continuous reference, and the storyteller's art is only an introduction to them. The historical novel, drama and film may also be used whenever they are available.

A topic in history can be taught from many different points of view. The Industrial Revolution of the early nineteenth century would be described differently by historians according as their interest led them to emphasise the economic, political, literary or social changes of the time, and the teacher cannot hope to give more than a glimpse of the complex incidents of

(e) A
topic in
history

the period. He might select the most typical representatives he can find, and show something of the changes through which they lived, helping the pupil to feel something of the catastrophic forces at work by their effect on individual lives. This is the method of the novelist, and many a pupil's first vivid realisation of the horrors of the French Revolution has come through reading *A Tale of Two Cities*. The teacher must select the characters through whom he will narrate the story, and to them he must attach the incidents of the text-book. Serious history, biography, memoirs, even fiction may be used, for *Oliver Twist* is, in its way, as true a record of the workhouse child and his sufferings as the sober pamphlet called *A Memoir of Robert Blincoe*, published in 1832 at Manchester, and claiming to be the authentic story of a workhouse boy who was sent from London to the cotton mills of the North in the last year of the eighteenth century. *Oliver Twist* escaped this fate because the scandalous treatment of the workhouse children had at last induced the magistrates to put an end to the evil, but his sufferings in private employment and at the hands of Fagin were equally terrible; thus our young pupils can realise what life meant to the poor child a century ago either through a real Robert Blincoe or a fictitious *Oliver Twist*.

One of the chief difficulties will be to keep the *dramatis personae* sufficiently few to make the plot simple in its main outlines. The farmer and the labourer of the eighteenth century, living in an era of prosperity and calm, are to be seen struggling through a period of rapid change, a period of war and revolution, a period of industrial expansion and invention, a period which drags them from the settled ways of the countryside to the new and unsettled ways of the town.

New classes emerge. The opportunities for profit by the new industry create the manufacturer, shrewd, hard-headed and unsympathetic, who figures in the pages of the Reports of the Factory Commissioners. The political awakenings of the time create new aspirations for the workers; a man like William Lovett, compelled to leave his native Cornwall by lack of work, and seek what he can in London, begins to work for a better human order. To trace the life of a child from the field in which he had, in the eighteenth century, earned a pittance by bird scaring, to the slum dwelling of the new town where, in the nineteenth century, he was the victim of conditions which are symbolised by the factory bell and the overseer's whip, is to realise an aspect of the Industrial Revolution in human terms, and to penetrate beneath the mere record of economic change and new legislation.

The steps which mark the teaching of a section of history of this kind will be obvious. In an industrial town where the factories employ many workers, including, probably, the parents and relatives of the pupils, many things will already be known about factory labour. Some pupils will have heard stories of earlier times, and may be ready to quote the case of a grandfather who began work when still a child. How long ago was that? And was it general? At what age did children then go to the factory? How were they treated? An aim will readily emerge from one or other of the questions which a pupil asks.

Presentation can use many devices. If the teacher has any gift for story-telling and can, by his art, "draw children from their play", then he is justified, for a time, in presenting to them a vivid narration of the facts. He should keep himself within bounds, for during the telling of his story it is he who is doing the

real work ; the scholars, inasmuch as they are interpreting to themselves the events described, are not merely passive, but they will become so if the teacher continues too long. If, however, the teacher has little skill in story-telling, the sooner he realises it and finds another way, the better for the pupils and for the subject. Mr. Bernard Shaw once compared school to a prison, with the additional drawback that in school the child is compelled to listen to his teacher, whereas the prisoner is not subject to a warder's monologues. There are dull teachers, and their dullness may be magnified in subjects which encourage talk. The reading of suitable extracts, the sharing out among the pupils of the work of collecting the facts, followed by a compilation presented later by the leader of each group, and the collection and examination of illustrations are but a few of the many devices which can be employed.

The step of Formulation does not play a prominent part in lessons of this kind. The pupils may be encouraged to ask questions arising from the facts, for these stimulate reflection on the mental picture they are constructing. Did all children work as hard as the one described? Did all factory managers act cruelly? Did anybody try to help the children? These are preliminary steps to simple generalisation, and they may suggest further topics for investigation.

The Application that completes the process is often in the nature of an exercise that will serve as a recapitulation. The pupils may be ready to dramatise some of the incidents, or to summarise the facts in writing, or be led to read a book that has been mentioned from which a passage has been read.

With older pupils the steps can be shaped more nearly to the scheme discussed earlier in this chapter,

for the teacher's aim will be more concerned with the intellectual aspect of history. He will devote more time to the development of the time sense, the chronological order of events, the tracing out of cause and effect, so that the subject may fall more and more into a conceptual plan.

These differences can be illustrated by means of the same topic already used ; the child workers of a century and more ago are now seen less intimately as individuals suffering particular hardships, but as a group in the whole national life. The topic might be developed somewhat as follows :

Preparation.—Some of you have read *Oliver Twist* and the *Water Babies* ; you have heard stories of the treatment of young children in factories, workshops and mines at the beginning of the nineteenth century. Can you describe how they were treated ? Do you remember the names of people connected with these events ? When was the period ? What name has been given to it ?

Presentation.—Different writers assign different causes to this treatment.

(i) First of all, however, there is the curious fact that the evils became known only very gradually. Richard Oastler, for instance, who did so much later to win protection for factory children, confessed that he had lived near the factories all his life and did not know about their tyranny until a Bradford manufacturer enlightened him. How was it that such knowledge circulated so slowly ?

(ii) People thought that industry should not be interfered with by Acts of Parliament. They used a French word *laissez-faire* as a guide, and a great writer Carlyle denounced this policy for the suffering it caused. (Read passages from *Past and Present*.)

(iii) A few manufacturers, chief amongst whom was Robert Owen, explained the cause as ignorance. Most employers argued that industry would not show a profit if the hours of labour were reduced and cheap child labour was abolished. Owen reduced the hours of labour and abolished child labour, yet still made large profits; he even asserted that if the manufacturers would look after their workpeople properly their profits would not be a mere 5 or 10 per cent on the capital, but 50 or even a 100. But this doctrine was so new that it was seldom believed.

(iv) Other causes can be discussed.

Formulation.—We have discovered many possible reasons—greed, political theory, indifference, ignorance. Which do you think the most important? Why?

The name given to the period is the Industrial Revolution. Can you suggest another name which would describe it from the point of view of the children? There is a well-known couplet which is true of this as of many other evils :

Man's inhumanity to man
Makes countless thousands mourn.

Application.—Again exercises will be set requiring a re-statement of the facts learnt from another angle, e.g. the presentation of a case for and against the employer.

It is obvious that the step of Formulation here differs in many ways from the clear-cut completeness of the scientific law. History is an interpretation of the past, and its conclusions cannot have the precision of science. They are coloured by the knowledge, the sympathies and the subjective values of the student,

who reaches the conclusions after a more or less complete survey of the evidence. But it is exactly because human problems are of the same order that the need for caution and restraint, the discovery of the sources of bias and error which a study of history can illuminate, is of immense value for life. Grammar, mathematics, science, history and geography have each their separate contributions to make to the educational process, and the teacher's method must be shaped to enable the pupil to realise the particular value of each.

CHAPTER XIV

THE ACQUIREMENT OF SKILL

Educa-
tional
value of
skilled
activities

THE arts of reading, writing, counting, speaking and singing, the representational arts of drawing, painting and modelling, and crafts like woodwork, metalwork, cookery and needlework, while they contain intellectual elements and involve knowledge, are first and foremost affairs of skill. We attach but little importance to a person's theoretical knowledge of the different strokes in swimming ; we judge his ability by watching his performance in the water.

In spite of the school's continuous concern with knowledge and with books, educational reformers throughout the ages have urged the importance of practical acquirements in the work of education. When Plato placed first the importance of gymnastic he meant all those games of skill which would help to preserve the " health, agility, and beauty of the limbs and parts of the body, giving the proper flexion and extension to each of them, diffusing and accompanying the harmonious notion of the dance everywhere ". Aristotle gave the same message : " It is clear that in education habit must go before reason, and the body before the mind ". Later writers extended the range of activities which should be a part of education. Rabelais would give his pupil a knowledge of all peace-time occupations, such as " the bottling up of hay, the cleaving and sawing of wood, the threshing of sheaves of corn at the barn ", and would make him pay visits to all places where skilled work is done, to the lapidaries,

goldsmiths, cutters of precious stones, alchemists, money coiners, upholsterers, weavers, velvet makers, watchmakers, looking-glass framers, where the pupil would "learn and consider the industry and invention of trades". From such activity would spring both knowledge and invention, for the pupil would be stimulated to attempt practical contrivances, and in so doing would learn much about the nature of materials and tools. The English philosopher Locke would have every boy taught a trade, partly as a corrective of the bookish curriculum.

It was Rousseau who discerned the mental gains inherent in skilled activity, and who proposed to make it the basis of education by forbidding the use of every book save *Robinson Crusoe* until the pupil was 15 years of age. "If I have made my meaning clear", he wrote, "you ought to realise how bodily exercise and manual work unconsciously arouse thought and reflection in my pupil. He must work like a peasant and think like a philosopher, if he is not to be as idle as a savage."

Yet in spite of the teaching of these and other reformers the school remained a place for the imparting of knowledge, and language was its chief instrument. The teacher was symbolised in old drawings as a venerable man with a book in one hand and a birch in the other, and with these he was equipped for his task. The movement for universal education in this country, more than a century ago, was stimulated by the wish to instruct every child to read the Bible, and in many schools reading was the only concern, and the book was the only apparatus. Manual occupations for children existed in plenty, but they were performed outside the school. The dualism of old, the separation of labour and learning, was strengthened. The solitary

attempt to combine practical occupations with reading, in the so-called "schools of industry", was a failure; they were regarded as inferior to other institutions, a device of charity to enable a few of the poorest children to earn a few pence to pay the school fee.

It is true that in earlier times the daily life of the people taught them a wide range of skills. The occupations of agriculture, the care of cattle, the domestic spinning and weaving, and the preparation and cooking of food, these and other tasks shared by the children had an educational value both in the skill they bestowed and in the knowledge they provided about the basic necessities of life. Drought and flood, spring time and harvest, famine and plenty, preparation and forethought for the winter, were all experiences carrying a vital meaning to every household. Such experiences have long since departed from the ken of most children. Labour seems to be no longer the direct means of satisfying felt needs: it is only an indirect means of buying necessities which others produce, and it consequently carries less direct satisfaction.

Increased mass-production by machinery has largely replaced the skilled craftsman by the machine-minder, whose task may require some elementary knowledge of mechanics, but whose work grows more and more repetitive and unchanging. The conditions in some industries almost require automatism in the worker. The tendency has gone further in America than in this country, where industry has a reputation for luxury products and high-priced goods, so that simplification of processes on the American scale is either impossible or uneconomical, but in this country, too, the "rationalisation" of industry is proceeding rapidly. Modern life and the specialisation of work

are conspiring to rob men of the satisfaction of what has been called "skill hunger".

Considerations of this kind have, in recent years, led to an increased recognition of the importance of skilled activity in modern education. Yet the full realisation halts: classrooms with their desks for writing and their books for learning are still far more numerous than workrooms with their benches for practical occupations. But the victory is won, and the school curriculum has been more radically changed in the present than in any preceding generation. Throughout the infant schools the gospel of activity is in full operation; it is spreading through the junior schools, and, before long, it must take a much more important place in the senior school, as can be seen in the new school buildings that are being erected. Whether it will win its due place in the grammar schools is more doubtful, though it already occupies a prominent place there as gymnastic and games. The cricket and football coach, the games master and the physical trainer have long been regarded, in the Public Schools, as necessary to the school's efficiency, and training in games and athletics has achieved a high degree of technical excellence.

Modern psychology has become increasingly interested in the process of acquiring skill, and recent years have seen many investigations into its problems. The development of experimental psychology, which has continuously extended its range of inquiry, and the anti-intellectual revolt in modern thought which has dethroned reason from her pedestal and exalted instinctive and innate tendencies as the prime sources of conduct, have combined to turn attention from man the thinker to man the doer. Industrial psychology, the youngest branch of the subject, promises

to become one of its most vigorous and fruitful departments.

Two broad generalisations from this new work are of importance to the teacher. First, psychology has confirmed the claim that the use of the muscles is not only good for the body, it is also good for the mind. The view is an old one, of course, and since William James popularised it for teachers in the well-known phrase, "No impression without expression", subsequent writers have developed its significance. The mind is exercised, stimulated and strengthened when some part of the body acquires a new power, a new skill in doing. And, second, the teaching of skill is, generally, far inferior to the teaching of knowledge. This second point has been abundantly illustrated in recent investigations carried out in industrial works, where a simple technique of instruction given to novices has produced in some cases an amazing superiority over long-experienced but ill-taught workers. Thus, the investigator in a spoon and fork polishing factory found that the employees had no conviction as to the best method of doing the work. They had a method, picked up somehow, but they did not know whether it was bad or good. As a result of the analysis of the movements involved in the process, the investigator devised a new method and taught it to beginners, with the result that their performance, after only a few days, was almost equal to that of so-called experts both in quantity and quality.

Modes of
acquiring
skill

Investigations of this kind deal with fairly simple skills, towards which large-scale industry is tending. The mode of acquirement is usually that of trial and error: the learner performs or attempts to perform a movement, and, slowly, learns to distinguish between the more and the less favourable, seeking to use the

former and avoid the latter, and acquiring in the end some degree of facility. But relatively few people achieve the best possible methods or the best of which they are capable unless they are adequately taught. Most games are acquired by players in the same crude way : a process of trial and error is used, and the errors may cling for an unconscionably long time, and, indeed, some of them may never be lost. The process can be seen during a frost on any skating-pond, where, owing to the sparse opportunities for practice in this country, the crude efforts of the novice in skating are greatly prolonged ; little teaching is given and slow progress is made.

The acquirement of more complicated skills is not different in kind. Skill is the organisation and integration of movements into increasingly complex patterns, the use of simple and familiar movements in new wholes. To the babe the acquirement of walking, involving the co-ordination of the trunk and larger limbs, is a complex problem, yet all children acquire the art because its use and pleasure are so obvious. But not all skaters become figure skaters ; most are content to remain on a lower plane of skill. There should be no inherent difficulty in figure-skating to one who can skate : it is the integration of a large number of movements in a continuous pattern of new complexity, but the movements themselves in their separate use are acquired in ordinary experience.

Games and pastimes that involve much skill, like cricket, boxing, fencing, skating and others, are usually better taught and have developed a more analytical terminology than less skilled games. The ordinary onlooker who watches an exhibition of pole-vaulting sees, perhaps, a graceful and complex movement and no more ; an expert separates out the various phases

of the movement, distinguishing the take-off, the pendulum swing, the arm pull, the leg shoot, the turn, the vertical lift, the foot elevation and the push-up, knows what each part contributes to the whole, how it fits into the total pattern and where it falls short. Industrial skills are usually acquired with much less expert analysis and much less defined terminology.

The point is important because the acquisition of skill may take place at a low and unsatisfactory level, and consequently lose much of its educational value. It falls easily into the mechanical and humdrum performance of mediocrity. Some skills are worth little more : they give us a mechanical facility in the manipulation of material which offers no scope for further development, and their educational value is slight. We are required to spell according to a fixed standard, and variations are ascribed to ignorance or stupidity. A Shakespeare may spell as he pleases, but not the modern schoolboy ; however illogical and uneconomical may be our system of spelling, the reformers make little headway against the opposition of social convention. There is little or no correlation between intelligence and spelling ability, but social usage condemns errors in spelling and blames the school for them, so teachers must conform to a requirement which society imposes. Spelling is largely a matter of habit and will be discussed as an example of a mechanical skill.

A skill like that of drawing is different. It is one which allows infinite variety and gives scope to the expression of personality, style and individuality of technique. Mechanical rules stifle and restrict : there must be freedom, spontaneity and independence. One of the interesting facts that has come from the investigations of the industrial psychologists in this

country is that the skill of an expert worker contains movements which, while they seem to have no utility in themselves, somehow contribute to the rhythm of the whole pattern : the blacksmith, for example, in striking something on the anvil, interpolates a tap between the heavy strokes. A mechanical psychology would condemn the intrusion as uneconomical ; a vital psychology finds that it is a part of a pattern that achieves individuality. In more complex skills than that of the blacksmith these individual variations may have an even greater importance.

It is necessary to distinguish between the acquirement of a mechanical skill, the movements of which take place uniformly and without variation, and a creative skill, in which variation and individuality are of value. The mechanical arts have long been distinguished from the fine arts, and the craftsman from the artist, though the line of division is not easy to fix, and the popular use of the term art-crafts is an indication of the ground they occupy in common. But in a mechanical art habit and routine suffice ; in a fine art the practitioner must be free to experiment, to attempt new creations, to achieve his own unique pattern.

Com-
parison of
mechanical
and
creative
skill

A fine art uses mechanical skills in its services : the needlewoman must still thread her needles ; the pianist's fingers must exert the right pressure ; the orator must still make audible sounds. But these small skills, however difficult their acquisition, and however much practice they require for their perfecting, have long since been overshadowed by the artist's genius to create a new structure. The poet uses the same words as the novelist, but from different combinations of them he makes new music.

Much of the teacher's work is concerned with

mechanical skills, yet he is training the potential artist who will one day outshine his master. It is this situation which constitutes the central problem in teaching the acquisition of a skill, namely, that whatever drill and repetitive exercises are necessary they shall not be allowed to stifle the germ which with proper development might grow into strong life. And while it is impossible to dogmatise and to assert that faulty training has spoilt many possible artists, the history of educational methods seems to offer evidence enough of this possibility.

How many children have suffered long hours of unrelieved misery in attempting to learn to play the piano, or other instrument, repeating the dull exercises week after week, until at long last everybody was convinced that the quest was hopeless? Certainly not all of them were intended by nature to be musicians, but among them there must have been some whose frustration was a direct result of mechanical teaching.

The teaching of drawing a generation ago was open to the same charge. "Freehand" drawing consisted, in the eyes of the Science and Art Department and consequently of the schools, of drawing highly artificial curves from the flat, that is, copying another drawing, and never drawing from real objects. This latter exercise was called "object" drawing, and was tested in a different examination and earned a separate grant, usually at a later stage. Another branch was "model drawing", intended to teach the laws of perspective, and based upon the drawing of a set of geometrical figures placed in a succession of different groupings. Each type of drawing had its own rigorous technique: in freehand drawing the pupil was taught to begin with a centre line, then to sketch in the left-hand curves, then to balance this accurately with lines

on the right-hand side and, finally, to erase the whole drawing nearly to the point of invisibility and carefully "line in" a finished copy. Week after week the pupil went through such exercises, and what should have been a fine art was reduced to a mechanical skill.

The teaching of woodwork was based on a similar method. The scheme usually comprised a series of "models" which the pupil was required to make in strict order. Each model involved the introduction of a new tool and a new process, and became increasingly difficult.

There was a certain logical justification in all such methods. They proceeded from the simple to the complex. They graded the difficulties of acquisition in approximately equal stages. No doubt some pupils became pianists, or artists, or cabinet-makers as a result of, or perhaps in spite of, the training. But it is certain that many of them felt that the exercises had little significance for them, and achieved no purpose other than the satisfying of the teacher's requirements. Some pupils will always perform the task set by the teacher, but passive acquiescence is not enough.

We have lost some of our faith now in the sacrosanct models of handwork, the five-finger exercises, the copying of artificial curves. In such methods everything is subordinate to a technique, while the service of the art to mankind, and the pleasure the art can give to its exponents, are ignored. Psychology tells us that we must satisfy other demands than those of technique: we must satisfy the motives of the learner, his desire to make something worth while, to express his ideas, and to win satisfaction from the work.

In the reaction that followed the phase described above there was a movement towards greater freedom:

Technique
versus
Content

the woodwork course allowed the boy to make objects of his own choice, music instruction began with the playing of simple "tunes", the art master allowed the child to draw what he liked. Technique was ignored or neglected, and the results, richer and more varied than before, showed deficiencies of the opposite kind : accuracy of performance suffered and the sense of orderly progress was lost in a course that seemed to be haphazardly constructed. In consequence, recent years have seen a revival of the demand for a more rigid technique, and the opposition between form and content sways now in one direction and now in the other.

Exactly the same opposition is seen in the controversy between the grammatical and the direct methods of teaching a foreign language. The grammatical method proceeded in an orderly way through exercises which gave facility in the correct use of the parts of speech, then in the construction of sentences, and finally, in free composition. The content of the exercises was a matter of derision : to inquire "Has William seen the pen of the gardener's aunt?" may be good practice in turning the English possessive case into the French genitive, but it is not the kind of question that is heard in France. The direct method introduced a content at once more interesting and more natural, and made use of the words, ideas and experiences of French people, building up a vocabulary for use, and imparting much information about the life, history and affairs of France. The criticism appeared before long that accuracy was suffering and that grammar was less reliable than before. There were obvious reasons why this might be so : the direct method gave much more time to speaking the foreign language while examination tests had still to be written. But it is probable

that there was a neglect of technique, and some teachers regarded the direct method as a way of escape from the drudgery of grammar.

The problem is so to wed content and technique that each shall render its due part to the process. Technique there must be : the scribe must learn how to use his pen, the painter his brush, the carpenter his tools, but the content, too, must be regarded. Ideally, technique should spring from content and should be introduced just at the moment that its value is apparent : there comes a time in making an article in wood when nothing but a dovetail joint will serve ; there comes a time in learning to play the piano when no further progress is possible without mastering a particular scale exercise. Technique is not the master, but the servant ; it is indispensable, but it must not be allowed to govern. Freedom, spontaneity and initiative are not to be sacrificed for the sake of technique, yet technique must be acquired if freedom is to be won.

If a master taught but one pupil at a time he would be able to see the precise moment at which the pupil was ready for a technical exercise. But he is in charge of a class and must teach the pupils together. The most practicable compromise he can make is to lay down a minimum course in technique for a term, or a year, and look out for opportunities when any part of it can be fittingly interpolated in the course. When a felt need or a difficulty is the occasion for drill, the drill will be endured because of the purpose it serves and the advantage it offers ; without this aid it becomes monotonous.

All teachers know the difficulty of repeated drill. An exercise set too often fails at last to hold the attention and performance deteriorates. If a boy is required, as a punishment, to write a line of misspellings correctly

fifty or a hundred times, it will probably be found that the old errors make their reappearance sooner or later, for his attention will relax before his task is finished. It is only by experience that the teacher can discover the point at which drill ceases to be valuable, and if he goes beyond that point his lessons become unprofitable and his pupils grow stale.

Mechanical skills and habit

Mechanical skills are matters of habit, and are performed with unvarying similarity. They are acquired by uniform repetition, and they enable us to perform routine activities with increasing facility and less fatigue. Our normal life is largely occupied with routine activities, and our dressing, eating, working and sleeping are in large measure affairs of habit. But habit fails when the circumstances become unusual and variable. The driver of a motor-car may, for nine-tenths of his journey, be proceeding quite mechanically, for the actual movements in driving are few and are soon integrated. The stimulus offered to the eye by the position of traffic produces the appropriate movements of the hands on the wheel, and the foot on the accelerator or brake, and the driver may be only dimly aware of where he is and entirely unaware of the actual movements he makes. His attention is directed to other things—to the goal he is making for, to the day's work that lies ahead, to the golf match he has just played. But habit will not serve for the unusual occurrence: the appearance of a flock of sheep, or the arrival at an unfamiliar cross-roads, will jerk back his attention to the task and demand intelligent decisions.

The advantage of habit is that it enables purposeful acts to be carried out without attention. If habits did not take over the familiar tasks of every day we should achieve little, for every action would require delibera-

tion and decision, and would show little saving of time in its execution. The importance of habit is not to be disparaged, for it greatly assists in the carrying out of endless tasks. Yet we speak of the chains of habit, and with justice, for they bind us to a uniform response. They are conservative and not creative; they are opposed to originality and experimentation; they can serve us at too great a cost. Rousseau long ago expressed the objection in a paradox: the only habit his pupil should be allowed to form was that of forming no habits.

The teacher, therefore, must distinguish between the simple uniform skills which habits perform, and the more complex skills where individuality is an important attribute. In situations which are best met by uniformity of response habits should be acquired as soon as possible and made as facile as they can be. In a previous chapter such regular activities as emptying the classrooms at play-time, giving out books, opening and closing windows, answering the roll-call, and so on, have been discussed from this point of view. Large numbers make uniformity economical in time and order, and habits may be built up without disadvantage. So, too, in the uniform skills which every child must acquire, conformity to the one right way must be insisted upon from the start. Spelling will take some years to acquire, but it is governed throughout by a dictionary that allows no departures from its standard. Skill in using the multiplication tables is measured by attaining the right answer. There may be less precision about standard speech, but the child must be required to associate the correct sound with each printed word.

The teacher sometimes errs in allowing mechanical rules to govern the arts of speaking and of oral reading,

and so destroy their individual charm and scope. Children have been taught such absurd rules for oral reading as always to drop the voice at a full stop ; to count one at a comma, two at a colon and three at a semi-colon ; and to give emphatic and distinct utterance to each word. Such rules beget that appalling monotony in oral reading which robs it of all attraction. The tempo of reading must be determined by its content, and the length of pauses decided by the sense, for no uniform rules will serve. It is better to curtail the exercises in oral reading in early years, than have to rely on artificial aids whose influence becomes deeply entrenched.

Steps in
the
acquire-
ment of
skill

In the acquirement of a mechanical skill the method can be described simply as one of imitation and practice. When a girl learns how to thread a needle she must hold needle and thread pretty much in the same way as others do, and constant practice will bring the desired speed. When a boy holds a plane and attempts to smooth a piece of wood, there are certain ways of grasping the plane in the two hands and of placing legs and feet in relation to the bench which will give him added power. The skilled practitioner can help him in this initial stage by showing both stance and movement, and the boy must practise the new attitude and make it familiar. Yet even here the performance is not a mere copy of the pattern set: the boy will try variations and modifications for himself, and will sometimes embody them in the pattern. In more complex skills the importance of such variations is increased. There is an intellectual process involved: variation introduces comparisons and choice, and underlying principles are sought, but the question of questions is the practical performance and its improvement.

Professor Findlay, in distinguishing the lesson whose aim is the acquisition of skill from the Herbartian analysis, suggested that there were four steps—Preparation, Presentation, Statement of Rules and Practice, the two first being adopted from Herbartian nomenclature. Yet these two also differ in some ways from those described in the preceding chapter.

Preparation is usually an easy and brief step. The average boy needs little preparation for an active job, and the sight of workroom, bench and materials sets him agog to grasp the tools and start work. Direct interest is seen in an unmistakable form, and no sensible teacher would frustrate this eagerness by pedantically insisting on a long-drawn-out Preparation. The pupils come, too, with the aim clearly defined. They wish to discover the way of making articles in the material provided, and their choice expresses interests derived from their life at home, from games, from books or from lessons in the classroom. The school should make what response it can to these desires, and not confine the course to a logically devised series of tool manipulations. Interest in technique is the mark of the skilled practitioner rather than of the learner; the first fine rapture may be careless enough, but it is dissatisfaction with the first products that makes the need for a better technique apparent. This principle in no way absolves the teacher from the duty of leading his pupils to a steadily increasing mastery of technique and a rising standard of work. Skill is the goal and not the starting-point and its achievement means much hard work.

Presentation includes both observation and imitation. “Watch me”, says the instructor, and he shows the pupil how the tool is used, how the stroke is made, how the foreign word is pronounced. At the outset

the teacher is the performer and the pupil the observer, but impressions are soon running out towards the muscles and the pupil is already imaging the movement in joints, tendons and limbs. The first interest is not in the product but in the action, and the child watches the movement in progress and tries to feel it in his own muscles.

And so he tries to imitate the movement, copying what he has seen as accurately as he can, attempting to reproduce a succession of movements as he remembers them. He tries and fails and tries again, and he learns from his mistakes if they drive him to observe more carefully and to remember more accurately.

The process is largely one of trial and error, but it is guided by the teacher's demonstrations and is conducted on an intelligent level which saves the learner from many mistakes and expedites his progress. He is doomed to make mistakes, but he can be helped to avoid them ; he carries in his mind the image of a better performance which helps to reveal to him the inferiority of his own. The teacher need not fear the effects of initial error so long as he can keep alive his pupil's determination to progress, to improve skill, to suffer increasing dissatisfaction from failure and imperfection, and to pursue accuracy more and more as a conscious end. When such determination ceases the arts have lost much of their educational value.

For the simple uniform skills the teacher may demonstrate the one best way, and insist on a faithful imitation ; in the fine arts he must be more tolerant of variations. In these differences lie the seeds of originality which lifts imitation above slavish copying. The teacher is justified in checking and repressing variations where they lead to inefficiency, but those

which seem to express intelligent reflection and ingenious experiment should not be condemned. Not all teachers are perfect exponents of the arts they teach.

Consider, for example, the art of composition, the skill of constructing in words an account of some familiar experience which the pupils have shared, a visit, say, to a travelling circus. The content here may be infinitely varied, and the difficulty lies in selecting from a chaotic mass of impressions just those which will carry the picture to its completion within the restrictions of time and space. One choice is not necessarily better than another ; it is different. Each child has seen and remembered different parts of the experience, has evaluated them by his own standards, and these preferences and individual patterns are important. The teacher has his own, but they are not necessarily better than his pupils', and his task is to help the child to construct his own pattern and to create a unity which is an expression of his own personality. There is a technique to acquire in the art of composition which includes correct spelling, the correct sequence of tenses, agreement of verbs with subjects, correct punctuation and a whole host of difficult acquirements, but few teachers would insist on a mastery of all these skills before the child was allowed to write a composition. Yet some exponents of the teaching of woodwork seem to advocate such a method for their craft, and devise a series of technical exercises lasting six months or a whole year before any useful article is made.

The critic may object that this argument neglects the importance of form, without the mastery of which there will be no progress. But the tradition of the schools has been so heavily weighted on the side of

form that there is little danger of the teacher neglecting it. The plea that needs repeating again and again is that the fine arts must be safeguarded from the tyranny of uniformity and mechanical rule, and that the meaning and value of form are to be found in and through content.

(c) State-
ment of
Rules

The third step, Statement of Rules, will usually be brief. The lowliest skills are the most uniform and most capable of being expressed as "rules"; the higher skills defy universal rules. The step of Formulation in the process of acquiring knowledge is the pinnacle of an intellectual effort. It is the answer to the problem set and its importance increases with the development of the thinker's mental powers. But this corresponding step in the acquirement of skill has no such importance; it is at best an economiser of time, an aid in grouping together the uniform factors, and leaving the mind free for those that vary.

Rules restrict activity and endanger freedom and spontaneity, and the greatest artist is least conscious of them. The learner may require their aid, though this is slight enough. In the case of a mechanical skill like spelling, such rules as there are, like "*i* before *e* except after *c*", are of assistance with a group of words, and if our spelling were rational there would be many more. In a manipulative skill like woodwork, rules are a summary expression of experience: different tools are held and different processes are worked in particular ways. Such rules should not be unduly pressed on the pupil, and his own modifications are not always wrong. Few people, when writing, stretch out the first and second fingers to a flat position in guiding the pen, yet writing masters used to attempt to force this position on their pupils. In the fine arts rules are frequently only temporary aids and of small importance;

they are quickly absorbed into the whole pattern. The skilled pianist no longer thinks of his fingers when he plays : analytical attention to one element would mar the effect of the whole and make his performance less unified, less personal, less free. So, too, while the young verse-maker must count the feet and control the rhymes, the poet will shape his ideas in conformity to metrical rules without much thought of them. Art breaks through rules and, indeed, reshapes them : there come periods in history when conformity is in fashion, but they end in revolt.

The fourth step, Practice, is the repetition of the activity that the teacher has demonstrated, and will occupy a much longer time than the other steps, for skills are acquired only slowly. Experimental psychologists have shown more exactly a truth that has been long known—that practice cannot be crowded too thickly into a minimum time. For example, if it takes two hundred repetitions to acquire a certain skill, the spreading out of these repetitions will affect the degree of efficiency attained in a remarkable way. In laboratory experiments, where simple skills have been measured, the spreading out of the repetitions has been shown to result in as much as six or seven times the efficiency of continuous repetition, and while school results will differ from laboratory experiments there can be no doubt that there is a maximum rate of efficiency of acquirement which has yet to be discovered for school subjects.

Modern psychology has also opened out another problem in the acquisition of skill which requires much more investigation, namely, the occurrence of what is called the “ plateau ” of learning. Where progress in a skill is susceptible of accurate measurement, as in learning to use a typewriter, it is found that improve-

(d) Prac-
tice

The
plateau of
learning

ment in speed is not uniform, but is broken by periods during which little or no progress is made. If the performances during a fixed period on a large number of consecutive days are recorded as a graph, the curve does not show a continuous rise to a maximum but an alternation of rises and plateaux.

Everyday experience confirms the existence of such halting places, though the irregularity of practice often hides them. But when a student goes abroad to learn a foreign language he usually feels in the first few weeks a steady improvement in his mastery of the language. The vocabulary of the familiar situations of his daily life grows facile, and he is able to converse with increasing ease. But this period may be followed by one in which progress seems to have come to an end. Errors seem to increase and facility to wane, and the mastery that once seemed so near now seems to be very remote and perhaps unattainable. Yet after a time progress again sets in and a felt improvement occurs. It seems as though the learner requires a period in which to consolidate his gains before he is ready for further advance.

In the case of the acquisition of typewriting it has been shown that when the beginner types the message letter by letter there is a steady increase in his output in successive periods as the arrangement of these letters on the keyboard becomes more and more familiar. But so long as he types letter by letter, and must attend to each letter separately, the curve of progress, rising rapidly at first, gradually flattens out and becomes a plateau.

The next stage in improvement comes when he can type by words : when the three individual and separate movements in the word " the " become one continuous movement. The mind now runs further ahead of the

muscles, prepares them for what is to come, and synthesises letters into words. The curve of learning begins to rise again, and this period of improvement may last for a long time, for while there are only twenty-six letters, there are many hundreds of familiar words which may now be learnt as wholes. But the possibilities of improvement in this stage will again become exhausted, and a second plateau occurs. When the skilled typist works in whole sentences, then a further stage of improvement occurs. The acquisition of skills is thus seen to be an ascent through hierarchical levels of increasing range, and progress may stop at any one of the levels.

It is this problem which is of so much importance and interest in teaching. It seems natural to suppose that plateaux are inevitable, but we know little enough about them. Can they be abbreviated by better teaching? Can the teacher even discover that a particular pupil is doomed for ever to remain on a lowly plateau so far as any one skill is concerned? Can he discern what are the factors which enable one pupil to rise to the highest plateau and prevent another? When such questions are answered the teaching of practical skills will become far more efficient.

The proof of progress in the acquisition of skill is the growing mastery over material and processes. In some cases it is shown by a greater speed and accuracy, in others by a wider range of expression. But we must look for these results in their proper time, and not expect them too soon. This step of application may be distant: the apprentice becomes a journeyman, and the journeyman a craftsman by stages. Schools are inclined to display their wares for external approval, to offer an exhibition of practical work for the admiration of parents and officials, whereas the value of the

work lies in its effects on the individual pupil's development.

Crafts-
man and
scholar

Throughout this discussion it has been obvious that skill is closely associated with intellectual factors. Before he can imitate the learner must observe, and in imitating he will compare and reflect. The conquest of a plateau is won by the aid of fresh mental integrations. In these facts lies the explanation that, in general, the more intelligent pupil is also the most skilful. There are exceptions to this generalisation, because intelligence is only one factor in many. Some people find in this association a cause for surprise : skill, they assume, is a compensation for poor intelligence. Handwork has been found to help backward and deficient children in their task of learning, but it does not therefore stand in opposition to bookish and verbal methods. There are cases where a certain amount of compensation seems to exist, but in the main the quicker comprehension, the power of making more accurate movements, the more reliable memory and the more continuous power of work, which help the intelligent pupil to succeed in theoretical studies, will also give him an advantage in practical acquirements.

Activity is a mode of acquiring knowledge, and skill brings an exultant sense of mastery which has a positive value. It is an ancient error to oppose craftsman and scholar, for both skill and knowledge make their particular contributions to personality. The importance of skill is still inadequately recognised in schools : its place in the time-table is often inadequate ; equipment for its exercise is often meagre ; its teachers are often regarded as less important than their colleagues. It suffers in secondary schools because it is not an important examination subject, and it

suffers in primary schools because it demands smaller classes and specially equipped rooms.

As in the preceding chapter a few illustrative examples are offered for consideration, and they deal with skills that concern every teacher.

Illustrations of method :
(a) Spelling

Spelling has been referred to as a mechanical art, and few schools escape the criticism that accuracy in spelling is neglected. Much less time is given to it than formerly, partly for the reason that additional time is made available for reading and writing, which will, in the end, favourably affect spelling. But the problem for the school to explore is the possibility of securing a more reasonable proficiency in the time allotted.

Inaccurate spelling is revealed only in the words the child writes, and not in those he does not yet use. Hence the older methods of giving daily practice in long lists of miscellaneous words have been rightly discarded as a waste of time. The spelling of words orally, as in the "spelling bee" competitions that used to be held as a kind of public entertainment, does not meet the situation where accuracy of spelling matters, as in writing a letter or composition. There are two controlling principles of method which are fundamental—to ascertain the range and content of the child's active vocabulary for each year of school life, and to give adequate written practice for the mastery of these words.

The first requirement has been met on a large scale by investigations in America and in Scotland, where the words used most frequently by children at different ages have been collected and printed.¹ No

¹ Cf. *The Standard Spelling List*, published by G. G. Harrap & Co., 1923.

doubt there are variations from district to district, and a particular school would have to add and subtract a few words from the general list, but the lists are so short compared with the vast complex of the dictionary that the teacher's task is much simplified.

The most general obstacle arises from the fact that, in reading and speaking, the child uses words as wholes, whereas he writes them letter by letter. Sound may help him sometimes, but it may also mislead him. A person writing words like "granary" and "brewery" may be suddenly assailed by a doubt about the fifth letter, where sound is no clue. It is not an uncommon sight to see such a person hurriedly write "granary" and "granery" on a rough piece of paper, and choose the one which looks correct. He has a mental picture of the whole word, though if visual imagery is poor he gets little help from this resource. Early careful observation of the word as a whole and in its separate parts is important, and this should be followed by a *written* imitation without the copy. For more difficult and unusual words the observation must be carefully repeated and imitation required at gradually extended intervals.

The steps of the teaching process are obvious. Preparation starts from the actual defects that the child reveals in his written work, and the teacher collects a list of words requiring immediate attention. Presentation includes the observation and analysis of the correct form, the noting of peculiarities, the emphasising of special points of difficulty and the correct imitation in writing. Rules may emerge: we note the dropping of the final "e" before "ing", and the displacement of the usual order "ie" when preceded by "c". But English spelling is so irregular that no rule is available in many instances: we

proceed with our *e*'s together and *recede* with them apart, but there is no rule to explain the difference to the child. Practice should be in writing, and the word should be used in different contexts. Frequent short practices should be given ; a few minutes every day should suffice to make most children accurate in the limited range of the words they use, and the teacher should exact a high standard.

The art of reading includes such a wide range of (b) Reading skills that it is difficult to deal with them in summary form. There was a time when reading in the elementary school meant little more than the one skill of uttering aloud the separate sounds of the printed words, and the exercise, as each child performed in turn, was often one of utter boredom. It was called "oral reading" by the teachers, and "barking at print" by caustic critics who thought of oral reading as something different from the succession of disjointed and unmusical noises which were frequently heard. Fortunately, silent reading has now largely replaced it. It may be necessary for the teacher sometimes to demand proof of the child's skill by requiring him to read aloud, but it is a test and not a way of teaching.

The uses of reading are many, and the aim will determine the method. Most reading out of school is silent, and is pursued for pleasure ; newspapers, fiction, the lighter works of biography, essays and travel constitute the bulk of the material read. An education that prepares for leisure will give some attention to this side of reading, not only in offering the choice of a school library and guidance to suitable books, but also in the acquisition of the technique of silent reading, the art of skimming a book, of reading quickly and with almost effortless comprehension. Experiments have shown that there is a high degree

of correlation between speed of reading and comprehension of what is read : the quicker reader grasps the significance of what he reads and retains it more clearly than the slow one. Some children have been found to read as much as six times more quickly than others of the same age, and experiment has shown that a slow reader can accelerate his rate by practice. The oral reading of the school was opposed to the acquirement of speed, and many slow readers were confirmed in their slowness because of it. Even the quick readers were frustrated : if they read ahead of the class silently and turned over the forbidden pages they ran the risk of punishment for exercising their natural gift.

Some silent reading is, of course, a method of study. Information has to be culled from the printed page, arranged, classified and learnt. Here a different technique is to be taught. The use of reference books, of catalogues, of indexes and summaries is important : books are the tools of the student engaged in an intellectual pursuit, and he must acquire the student's methods of work.

Oral reading must be redeemed from its debasement in school and re-established as a fine art. Like the orator, the reader's first regard is to his audience. Clear enunciation, intelligent interpretation, and the use of pause, emphasis, variety of expression and emotional attunement must be within his scope. The audience should not have in their hands the book from which he reads, for it will distract them and him. He should prepare carefully beforehand what he reads, and practise the rendering of it in secret. The art of oral reading has fallen to such a low standard that improvement ought to be easy to effect. It is little practised now because its charm has been lost, and

even in church, where the Bible offers material that can assist the good reader in every aspect of his art, it is common to hear mechanical reading that makes little impression on the congregation, and robs the words of half their music. Some of the professional announcers of the B.B.C. have shown in recent years that even the reading of a news bulletin can display the attractiveness of a fine art.

To these different purposes of reading the teacher must shape his methods. The initial step of Preparation should spring from the child's realisation that reading is an attractive acquisition valued by all his elders, and subsequent preparations will be associated with school lessons and direct experience. For through reading he can find fresh hobbies and games, new information, amusement, excitement, satisfaction and solace for every mood. Presentation will vary both with the type of reading and with the age and ability of the scholars. The process of observation and imitation is most clearly seen in oral reading of the kind described above, where the teacher, if he is sufficiently gifted, will offer a demonstration in the adequate reading of material carefully chosen for the particular class. Similarly, in reading for study, the teacher will show how books are used, and will devise exercises which will give the pupils facility in acquiring information from books. In reading for relaxation, presentation consists largely in finding the right book. The step of Practice is not easy to supervise, and in class teaching there is the difficulty of unequal attainment to provide for : good readers can be left to themselves for much of the time, provided there is a plentiful supply of the right books, while poor readers need simpler material and much more help.

Young teachers sometimes imagine that the reading

lesson is one of the easiest to conduct, and are inclined to leave their procedure to the inspiration of the moment. It is largely because of this that periods devoted to reading are so frequently wasted and so monotonous. One still hears the familiar words: "Open your readers at page—which page did we get to in the last lesson?" and a page is found and a pupil is put on to read. It will not be long, as a rule, before trouble arises: a boy will be discovered who has "lost the place", and this sign of the failure of the teacher to keep the boy's attention is treated as a proof of wrong-doing. A successful reading period requires as much thought and arrangement by the teacher as any other lesson, and he must first have clearly in mind which of the several purposes the period is intended to serve.

(c) Written
composition

A third skill which is important in the school is the art of written composition. The early compositions of the child should be associated with his direct experience, which is the Preparation for the art. Artificial topics should be avoided, as also should artificiality of expression. The child should be guided to the expression of his own views, and his own values. Presentation may take many forms, according to the particular aim of the section of work, and the teacher may discuss alternative ways of arranging the essay, and introduce examples of how good writers have dealt with similar topics. It is in this stage that imperfections in previous work can be dealt with, and the faults made clear. Practice will occupy the longest time.

Conclusion

The schemes which will be drawn up for subjects like art, woodwork and the domestic crafts will have regard to the work to be covered throughout a period which may last through several years, and because of the wide range of skills such schemes will differ from

school to school. The opposition between form and content already discussed must be resolved somehow, although it will probably be less heavily felt in the domestic subjects than in art and woodwork. When a girl is taught the essentials of cooking there can be no confusion as to the aim—she expects to make something edible, and the school's efforts are directed to that end. She learns the way to beat eggs and mix dough as incidentals to the main purpose, and nobody has ever proposed that she should beat eggs merely to acquire skill in beating. But there are still advocates of the view that a boy should plane wood merely to acquire skill in planing, and make dovetail joints which serve no other purpose than mere practice in technique. The isolation of technical exercises appears once again to be coming into favour, and it is claimed that the results justify the means. But the argument of this chapter is that external results are less important than the educational process through which the learner passes, and that it is to the process that the teacher's attention should be directed.

CHAPTER XV

AESTHETIC APPRECIATION

Neglect of
emotional
factor in
education

A THIRD type of experience has been distinguished in which emotion is the dominant mental constituent, and where the result is the appreciation and enjoyment of beauty as expressed in colour, form and sound. In the world of sensuous experience intellect and striving recede, while feeling is pre-eminent.

It is frequently stated that aesthetic appreciation cannot be taught; but, like religion, it can at least be "caught", and in the most unexpected ways. Such critics would declare that formal lessons are a snare, perhaps an obstacle to emotional enjoyment. Yet experience in the past hardly justifies the neglect of aesthetics in the school. In *The Loom of Youth* Alec Waugh criticised the education he was just concluding, and made the plea: "Youth wants colour, life, passion; the poetry of revolt". To this plea Martin Browne, another schoolboy author, gave unqualified approval, while refuting many of Waugh's other charges: "Youth", he wrote, "very often does not know . . . what it wants; but it does want beauty, and, if it fails to get it, grows up stunted in soul. Old people say beauty is dangerous—it leads to 'loss of the moral sense'. That is a lie. Beauty is a pure and holy thing. Youth is a 'flaming spirit', and it wants the satisfaction of beauty, whereby alone many of us can reach to God, who is the God of Beauty. . . . The lack of beauty in our teaching, not only in National Schools, but in Public Schools as well, is therefore to

me the greatest calamity of education."

It is not only schoolboys who lament over the deficiencies of the curriculum. The same charge has been made many times by writers who deplore the intellectual bias of the school. For even in the teaching of art, music and literature the tradition of the school has been against the cultivation of enjoyment. In consequence, the person who confesses that he never reads Shakespeare, or indeed any poetry, and gives as his explanation that he had enough of it at school, is well known. It must be worth while to attempt to give enjoyment in the fine arts ; even if little is achieved the time will not be wasted.

In recent years the appreciation lesson has won popularity, and many teachers have waxed enthusiastic in their determination to awaken and develop their pupils' love of the beautiful in literature, music, pictorial art and craftsmanship. Modern inventions like the gramophone and wireless have brought new aids to the teacher ; the performance of the first-rate artist can be brought within the classroom at a slight cost, and so remedy the deficiencies of the school. Such lessons are given in the faith that aesthetic appreciation can be taught, and that the results are worth while.

We know little of the development of aesthetic consciousness in our pupils and of the conditions precedent to the seemingly miraculous awakening to the realisation of beauty. Such realisation comes to many as a re-birth :

There's a sunset touch,
A fancy from a flower bell, someone's death,
A chorus ending from Euripides,

and life's values are permanently changed in an event

which can be dated. But how is the soul prepared for this intensifying of experience, and can the teacher, by taking thought, increase the number of pupils who will share such a revelation, and widen the response to different forms of beauty? The question is a momentous one.

No doubt a school aesthetic would begin by considering the material conditions which favour or obstruct appreciation, and the unpromising ugliness of many school buildings would certainly stand among the obstructions. Nor are the interior fittings, the colour of the walls, the lighting, furniture and arrangement always in good taste. So far as the building goes the teacher must accept what the architects provide, and there is often little he can do with the internal decoration. The new schools that are going up, however, show vast improvement over the old, and the internal appearance is everywhere more pleasing and attractive.

Yet the human mind can rise above surroundings, and can experience a sense of beauty even in unlikely places. Music makes its appeal wherever it is heard, and poetry can lift the responsive listener into a new world. The teacher need not despair too much of his conditions; his task is to surmount them.

Aesthetic
appreciation not to
be im-
posed by
the
teacher

His concern is with the child's experience, with the evoking of a response to fine material. His temptation will be to expect a response akin to his own, and he will suffer many disappointments as he discovers that his own enthusiasms are not shared by the class. Their preferences will not be his, and he must beware of trying to enforce his own choice upon them. Dogmatic teaching will avail little. He may read *Hamlet* with his pupils and insist that Shakespeare is the supreme dramatist; he may provide a skilful rendering of a

Beethoven Symphony and point out its beauties, but if the pupils, openly or in secret, feel a preference for the cheap adventure story in their pockets, or for a popular song they have just learnt to hum, the teacher's statements will count for little. They may, in fact, do harm, and in at least two ways : they may evoke from the pupils the crude verdict that the classics are sorry stuff, or that the teacher's standards are not for ordinary mortals. They must somehow be led to feel beauty before the teacher attempts anything further.

The technique of the appreciation lesson attempts to avoid the dangers just described by making use of suggestion. The child is told nothing of what he ought to like, but the teacher's own emotional response is clear enough. The pupil is engaged in comparing poem with poem, picture with picture, tune with tune ; he expresses his own judgments and preferences ; he is allowed to hear or see again the thing that gives him pleasure, and what does not awaken response is put aside for a later attempt. There is no compulsion on him to like this or condemn that ; the teacher's first task is to provide and repeat experiences from which the pupil derives emotional pleasure at the stage of appreciation he has achieved.

In many ways this restraint on the teacher's part is hard to sustain, and many lessons in appreciation violate the principle. A teacher reads a poem to the class, selecting it carefully in the hope that they will enjoy it. After reading it he sometimes asks : " How many of you like the poem ? " and every hand goes up ! The gratified teacher, pleased at this response, may be tempted to further probing : " Tell me which verse or line you like best ". The hands go up again, and several pupils are allowed in turn to read their choice. If sufficient opportunities are given, it will

sometimes be found that every line is preferred by somebody, and the teacher, unwilling to interfere with the freedom of selection, gives some sort of approval to each one. Next comes a more difficult question: "I want you to tell me why you like the passage you have chosen". The reasons vary: some lines just "sound nice", or make one "see a picture", or "use alliteration", and so on; before long it is clear that the pupils are trying to find an answer which will please the teacher, and they repeat phrases they have heard before, school jargon which means little to them. At its worst this kind of inquiry is only a masquerade of the dogmatic lesson, tricked out with much sentimentality, the scholars responding as best they can to the teacher's lead.

For we know that these same pupils are reading "fourpenny dreadfuls" in secret, that many of them are blind to colour and form, and they prefer jazz to other music. Begin at their level we must, or we shall make no contact; impose on them our own standards and taste we must not, for by doing so we encourage unreality and superficiality. How, then, is a satisfactory procedure to be devised?

Personal
enjoy-
ment to
be the
criterion

The starting-point lies in the provision of materials, whether poems, pictures or music, and the avoidance of any insistence on their worth or of any premature inquiry as to the appeal they make. There are occasions, even in classrooms, when questions are out of place. We should feel annoyance if, when gazing at some scene of natural beauty, a voluble companion insisted on pointing out its obvious perfections; if he began to question us with inquiries like "Which part do you most like—moor, stream, or wood? Why do you prefer it? Which shade of green appeals more—that of the pasture land or the trees?" there are few people

who would not be driven to violence. Yet questions of this kind are asked sometimes in school, and the child has no defence. He may think them silly, but he can avoid trouble by trying to guess the answer which will give some degree of satisfaction. After reading a poem with obvious effect on the class the teacher would be well advised to let it work its own spell; if a gramophone is used he must let the record make its own impression. The emotion aroused will do its work more effectively in silence; a question may kill it at birth. We have heard teachers read a poem like Tennyson's *Revenge* so effectively that the tense emotion of the class was proof enough that story, rhythm and language had gripped them; the three or four minutes of silence at the end, as the pupils returned again to a sense of time and place, were more valuable than a string of questions.

Throughout the primary school stage, and sometimes for long afterwards, the teacher's main task is to provide the most suitable material he can find, and to use whatever skill he has in its effective presentation, satisfied that the harvest can be left to a later season. To like a poem or a picture is a simple matter; to explain its excellencies is not.

Young children can be encouraged to express their likes and dislikes without fear: they will ask for a poem to be read again and again, and for a song to be repeated. The time saved by avoiding unnecessary questions and explanations is better spent in such repetition: the less familiar language and richer imagery of poetry requires to be repeated for its full savour; even if the poem be simple in thought and language, the rhythm and rhyme will give increasing pleasure as the words grow more familiar. Much of the teacher's work at this stage is experimental: he brings

material to the attention of his pupils and that which produces real and obvious enjoyment he presents as often as may be, discarding the rest without reproach. To let his pupils enjoy as large a sensuous world of colour and sound as is possible in the time available is the first requirement, and the primary school will do its work if the pupils' early association with the arts is such that they regard them as a source of pleasure.

There is a traditional view of the school's attitude which will regard such an aim with misgiving. The acquirement of knowledge or skill can be measured more or less accurately, but the development of aesthetic sensibility and the improvement of taste will baffle both inspectors and examiners. Some teachers do, indeed, try to devise examination papers in appreciation, but they have to fall back on knowledge. It is obvious that a pupil may *know* much about a poem like *La Belle Dame sans merci*, and be able to answer a large number of questions on it. But the experience of *feeling* its mysterious beauty, of hearing its echoes of enchantment, of finding in it something of the sweet sadness of loss, is so unique and personal and inexpressible that no examiner's skill can measure it. Is it therefore the less important? Is it not rather the more important? The aim of education is the enrichment of personality and Keats may be a greater teacher than any Matriculation Board.

Aesthetic experience lies beyond, far beyond, the judgment of examiners, and is more important than the work they do. It reaches to the inmost core of life; it stimulates, consoles and fortifies; it penetrates the deeper mysteries that lie behind appearances; it enters realms where reason cannot help, and where practical skill is non-existent. Its prophets—poet, artist, musician, mystic and dreamer—have found in

it absorption that is not for ordinary mortals, but ordinary mortals can find some response in themselves to it. To miss such experience is to impoverish life, and to deny the truth of Wordsworth's message :

How little those formalities, to which
With overweening trust alone we give
The name of Education, have to do
With real feeling.

The formalities of lessons, syllabuses and examinations have their place, but the importance of the world of feeling in which the child lives must also be recognised. As the school system grows more organised, and, measured by recognised scales, more efficient, so does the danger of formality increase, and the opportunities for enjoying sensuous experience diminish.

The discovery of beauty comes in different ways. Wordsworth has shown how the magnificence of natural scenery was revealed to him in early years, but nine-tenths of our pupils are almost cut off from such experiences as he enjoyed. In too many cases, alas, the child must depend on what the school can offer. Yet the awakening to beauty is not conditioned by external factors alone : there are slum dwellers who can respond to beauty, just as there are inhabitants of the Lake District who are insensitive to its appeal. For the enjoyment depends also on the subjective factors which the individual brings to the process. Wordsworth speaks of the auxiliary light of the mind :

Which on the setting sun
Bestowed new splendour ; the melodious birds,
The fluttering breezes, fountains that run on
Murmuring so sweetly in themselves, obeyed
A like dominion, and the midnight storm
Grew darker in the presence of my eye.

The mind transcends experience, leaps time and space, and imprints on externality its own pattern. It is necessary for children to see the setting sun, hear the melodious birds and feel the fluttering breeze, but these physical sensations do not explain the appreciation of beauty. The mind must enter into them, and transform them to its own use.

It is in this that the justification for the lesson in appreciation lies. It is an invitation to look at or listen to something beautiful, with leisure to enjoy it in a favourable atmosphere, and with the teacher's use of suggestion to heighten its appeal. The results must be left to develop as they will.

The
teacher's
Prepara-
tion and
Presenta-
tion

So far as young children are concerned the steps of Preparation and Presentation are enough. The mind can be prepared by the awakening of expectation and the anticipation of pleasure, and suggestion here plays an important part. The Presentation must make use of every device which will assist the vividness of the appeal. With senior pupils, whose awakening powers of criticism claim some satisfaction, there is justification for a more formal technique.

Much more responsibility lies on the teacher in presenting literature than in music or art. Pictures are presented to the observer as the artist painted them, and they cannot be marred in the process. Music is presented either by a skilful exponent (not necessarily the class teacher) or by gramophone and wireless, and the advantage of having a specialist music teacher is increasingly recognised in the schools. But literature still suffers from the view that every teacher can present it. The view is derived from the failure to distinguish between reading for knowledge and reading for appreciation. Reading for knowledge is the business of every teacher, for all must use books, and it has been

already shown that there is a technique for this special activity. But reading for appreciation is a different matter, and its efficiency depends upon the rare gift of a sincere feeling for literature, and upon the equally rare possessions of a musical voice and attractive delivery.

Instead of formal steps, therefore, it is more useful to set down the chief requirements for the lesson in appreciation. The first is the one just mentioned—a real enthusiasm and appreciation in the teacher himself for the form of art he teaches. Knowledge is not enough: there must be sensitiveness to the beauty it expresses, an emotional warmth that breaks through without effort. And if to this is added, for literature, the ability to read well, for music the ability to play or sing, and for art some skill with brush or pencil, the advantage is obvious, but these skills are less important than the attunement to the art in question.

Secondly, the teacher must possess some insight into the needs of his pupils, and be able to find material suited to their stage of development. The more catholic his taste the better, for he must place no restrictions on his pupils' preferences, and he must be able to satisfy many tastes. He should experiment courageously, and faithfully observe the results for his future guidance. There is poetry, music and art to be found even for the most childish tastes, and a good selection will only be found by continuous search.

The third requirement is the teacher's own preparation of and acquaintance with the material. A pianist or singer would not appear in public except after long practice in the performance he presents, and the teacher cannot do full justice to his lesson unless he has made the work of art a part of himself. This

requirement is specially important in literature, for there it has been most neglected. There are times in the lessons which aim at the acquisition of knowledge when it is an advantage for the teacher to be ignorant of the answer to a problem raised, and to be compelled to work it out with his pupils, but no such situation occurs in appreciation. The first impression made by a work of art must be safeguarded from all imperfections of presentation, and the teacher must take precautions against possible sources of weakness.

Class-
room at-
mosphere

It is important also to emphasise the fact that appreciation is best promoted in an atmosphere of quiet. The tense discomfort of thinking and the busy activity of doing are alien to the enjoyment of beauty. There must be reasonable security of freedom from noise and from external distraction on the one hand, and from discordant moods and emotions on the other. The first may be hard to win in some schools, although a little care would often improve matters : the eruptive type of headmaster who enters a classroom with hurricane speed may be asked to postpone his visit to another period ; the pupil from another class who comes to borrow a map or to bring a message must be kept out. The amount of disturbance caused in some schools by such unnecessary movement is enormous. The disturbances from inappropriate emotions are more unexpected, and more difficult to check—the excitement of a coming football match, the fear of an approaching examination, the risibility which attends some trivial incident, and the many currents of personal interest which run unseen in the pupils' minds may set up moods which make a particular poem or piece of music incongruous or unattractive at the time arranged for it. Just as adults are not always " in the mood " for hearing classical music or visiting a

picture gallery, so children may turn from the lesson to which the teacher invites them because they are not in the right mood for it. The signs should be noted, and where there is obvious disunity between class and topic the lesson had better be postponed to a more favourable opportunity.

The general principle is that the teacher should not risk putting a work of art before his pupils without first attempting to secure the appropriate mood for it. This is a further argument in favour of the non-analytical time-table advocated in an earlier chapter, which gives the teacher opportunities for rearrangements when necessary.

Preparation includes both emotional and intellectual factors. On the emotional side the teacher has the double task of avoiding inappropriate and incongruous moods and stimulating, largely by suggestion, the appropriate ones. A tone of voice, an expression and a feeling are all communicable to others, and numbers intensify the influence that a leader can exert. The spirit of the epic poem is anticipated in the brisk tone ; that of the elegy is suggested by the restrained voice and manner. There should be no exaggeration and no artificiality in such suggestions.

On the intellectual side poetry offers difficulties because of its use of archaic or unusual words, remote ideas and difficult allusions. The intellectual elements in art and music can probably be postponed with the pupils we have in mind : musical form and the principles of pictorial composition are fitting studies in later stages, but the first enjoyment of art and music may be gained without them. This fact supports the view that we need not be too anxious about the intellectual apprehension of everything in a poem as a condition of its appreciation ; children repeat nonsense

rhymes with obvious enjoyment because the rhythm of the verse attracts them, and some "howlers" arise from the fact that children have substituted a word or misunderstood a word in a poem which they have frequently repeated and enjoyed. But if a word or an allusion is likely to cause difficulty, and is important for the understanding of the poem, then it should be dealt with in the stage of preparation. In Masfield's *Cargoes* there are three stanzas beginning respectively with the words "Quinquereme of Nineveh . . ." "Stately Spanish galleon . . ." and "Dirty British coaster . . .", three types of ships which may all be unfamiliar to the child. Pictures, if these are available, would make clear their differences in a short time; if not, some explanation must be given, or the names will interfere with the impression that the first reading should make. But the question as to the necessity of other explanations in this poem of unusual words is more controversial. Take the lines describing the cargo of the Spanish galleon :

With a cargo of diamonds,
Emeralds, amethysts,
Topazes, and cinnamon, and gold moidores.

Here are six uncommon articles—jewels, spices and coins—going to swell the Spanish treasury, and carried in a ship which aroused the envy of the Elizabethan sea-dogs. Is the teacher to explain exactly the differences between diamonds, emeralds, amethysts and topazes, and count up the value of moidores in modern coin? Or shall he leave them in their bewildering profusion, heaped together, suggesting weird legends of the inexhaustible wealth that was gained in the Indies? A scholiast would explain every difficult word, a school edition would appear with

footnotes more bulky than the poem itself, and the child might be required to memorise the information. But such Preparation is not for the appreciation of a poem, but for the passing of an examination on it.

Fortunately, teachers are turning more and more to the view that the poem is more important than the notes and the encyclopaedic knowledge that can be attached to it. The modern teacher is content to leave the precious stones in a dazzling heap, and let the value of gold moulds remain uncounted, so long as the children gain a picture of the fabulous wealth on board the galleon, and feel the humorous contrast with the

Dirty British coaster, with a salt-caked smoke-stack,
Butting through the Channel in the mad March days.

They may not be very sure as to the meaning of "pig-lead" which the coaster carries, but they have seen the point of the contrast that the poet intended, and each ship has become a particular object of attraction. The safe rule is to cut down explanations to a minimum, and to regard the emotional factors as far more important.

Popular entertainment makes full use of suggestion, and spends much money in advertising and box-office arrangements, designed to awaken anticipatory pleasure in an experience still distant. In the theatre, the cinema and the concert hall, on the night of the performance, this anticipation is fed in many ways. The curtained stage still in darkness, the programme, the orchestra; then the lowering of lights and the glare of the foot-lights; and last, the raising of the curtain, are stages leading to the climax of the presentation. Everything centres on the stage, and attention is held to it by many different aids. The disturbance caused by late-comers is resented, and many have praised the boldness of one

Im-
portance
of sug-
gestion

famous conductor in having the doors locked before the performance begins. Similar devices were used at one time in a series of readings of poetry by living poets. The hall was hung with dark curtains, the lights save for one at the reader's desk were extinguished, and no disturbing sensations were allowed.

The teacher has few such resources at his disposal, and can only employ his suggestive powers in their place. He may be conducting a history lesson on the reign of Elizabeth and talking about the sea-dogs and their adventures, and he says: "By the way, there is an exciting poem by Tennyson describing a fight between one English ship and fifty-three Spanish ships. I will read it to you soon, and you will see what a heroic fight it was." Or the class is learning, in geography, of the importance of Gibraltar and its place in Empire communications, and the teacher may refer to the emotions that might be experienced by somebody seeing the rock after a long voyage over the Atlantic. He has in mind W. S. Blunt's sonnet,

At this door
England stands sentry,

and then and there, or in a later period, he reads the sonnet to the class. Opportunities occur in the same way for preparing the class to see a famous picture or to hear a piece of music. Preparation makes use of many devices, and may begin long before the actual experience.

Quality of
Presenta-
tion

The excellencies of presentation depend on many different personal qualities in the individual teacher, and a general statement is of little use. Happy is the school that has a musician, an artist and a first-rate reader on its staff, and makes full use of their gifts for the special requirements of appreciation. A good

gramophone is better than a poor piano or a mediocre pianist, but even among the pupils there may be a performer who is worth a hearing. Pictures are expensive, though the modern processes of reproduction have improved them out of all recognition, and it is a pity that more use is not made of a circulating scheme. Literature is the cheapest of the fine arts, for a few pounds will buy a small library sufficient for many years.

The first presentation should be uninterrupted, and, if possible, completed in one sitting. Pictures cannot be presented in pieces, and poems and music should, wherever possible, be regarded as equally indivisible: they are wholes, and must be enjoyed as wholes before any analysis takes place. And as there is so much concentrated richness in great art, and as successive readings of a poem will reveal a more exquisite pattern, there may be more than one presentation of it as a whole, not necessarily on the same day, but as opportunity serves. It is sufficient as a beginning if the pupils ask again for a poem or piece of music that they have enjoyed. Thus they grow familiar with its theme, commit parts of it to memory not as a task but for delight in its mode of expression; before long they will be able to compare one poem with another and one air with another. Many teachers will ask for no more than this in the years before adolescence: they have faith that out of this experience will grow an interest in and enjoyment of art that will become, for many, a lifelong possession. The memory will retain something of the pleasure that has been felt, and a desire to repeat and extend it.

If such a result could be experienced by every pupil in at least one field of art there would be less danger in the second stage of appreciation, which, for most children, should be deferred until the newly awakening

Critical
apprecia-
tion with
older
pupils

emotions of adolescence enable them to consider the world of art in a more detailed way. The error of the past was a premature use of analysis, and literature was used as a means of gaining information, as a vehicle of linguistic exercise, and of tasks in grammar. The distaste for poetry that often resulted from this method has already been mentioned, but there is also possible an error of a different kind, the danger of indulging in sentimentality. The safeguard probably lies in some study of the qualities of art that are within the scope of the pupil's understanding, an analysis that is never pedantic and abstract. Writers like Mr. Greening Lamborn¹ have shown the kind of literary analysis that is possible in school, and there is a growing output of work of a similar kind for other forms of art.

French teachers have, for literary study, devised a method known as *Lecture Expliquée*. The method varies in the hands of different exponents, and is sometimes closely associated with formal grammatical exercises. But it is also used to include a close study of the content of the piece of literature, its form, style, vocabulary and imagery, and is designed to give a clear understanding of the author's genius. In contrast to the vague generalities which are sometimes found in the appreciation lesson it calls for a direct reference to the text for every statement, and it follows a logical order.

It begins by the oral reading, of which we have already spoken, and, if it is an extract from a larger work, there follows an explanation of the work from which it is taken, and an explanation, too, of the position of this work in the author's whole production and of the author's place in literary history. That

¹ *Rudiments of Criticism.*

is, the extract is related to the whole of which it is a part.

The piece is now examined for its main idea, which is to be expressed clearly and accurately. Sometimes the title of a poem is all-revealing ; oftener, however, its adequacy may be questioned and alternatives discussed. This dominant idea may next be analysed : just as in a sonnet the octave and sextet may be the ebb and flow of a single wave, so in a poem we may have various phases and aspects of the poet's thought separable and distinct from the whole. The time taken by examination of this kind will differ with every class and every poem.

Next follows an inquiry into structure, an appreciation of how the poet has woven his strands together in the whole pattern, how he has arranged the separate parts and in what order he has placed them. The more insight we can get into his craftsmanship of building the nearer we are to his thought, his attitude to life, his genius. For young pupils, again, it is helpful to compare two poems by different writers on the same theme.

So far, the method has kept close to the thought and meaning of the poem. A further important step is to examine in some detail the poetical qualities—colour, sound and all sensuous elements ; images and symbols, and tempo, metre, rhyme, rhythm, alliteration and assonance. This wealth of sound, and its connection with sense, will call for repetition as new devices are discovered. When a pupil repeats a line for very joy of its harmonies, even if it be a hackneyed line to which we have grown indifferent, we can be satisfied that he has won admittance into the "land of faery". A world of beauty has been opened to him, and he must be allowed some freedom to roam about in it as he will.

The musician and the artist must devise their own modes of analysis, and there are suggestions in the method of the *lecture expliquée* which they can adapt. The procedure from the whole to the parts, the relation of the whole to its background, the structure and meaning, and the more detailed excellencies of the work of art which has been presented to the pupils, offer endless possibilities ; the task of the teacher is to decide how much of this analysis will be profitable for a particular class.

But the claim of some exponents of the *lecture expliquée*, that a paragraph or two of a prose writer, or a few verses of a poem, is sufficient to reveal the genius of the artist, must be disputed. The analysis then tends to become a most meticulous examination of every minute detail, and there is danger of the teacher falling back into pedantry. To the plea that there is need for a long period of enjoyment before analysis is used can now be added the statement that for a large number of pupils of school age the amount of analysis that is profitable may seem disappointingly small. But enjoyment, for all that, may be deep and abiding.

Applica-
tion

The lesson in appreciation should seek an immediate application in the stimulus it may provide for creative exercises. The child passes from enjoyment to action ; he tries to write in imitation of an author who has made a vivid appeal ; he tries to write poetry, to paint, to sing. While such efforts belong to the acquirement of skill, they have also an important effect on appreciation ; they show more clearly where difficulties lie and how they may be successfully mastered. They reveal excellencies of technique that have been hidden, and details of structure and pattern that are not at once obvious.

There is the further application also in the enjoyment of leisure. For appreciation of literature or music or art may become at once the cheapest and most satisfying of all leisure-time pursuits. Books, concerts and picture galleries are available in all cities, whereas gardening is impossible in winter months, and tools and benches are not within the means of everyone. Important as are the gains in this respect that have been won by popular education, much still remains to be done.

It is unnecessary to offer any more detailed illustrations of procedure for the lesson in appreciation ; of the three types of teaching it varies most widely from any single pattern. If the critic still asserts that appreciation cannot be taught, the teacher may at least claim that he can prearrange some of the conditions in which it may be caught, and that he can remove some of the obstructions that beset it. We believe also that he can do much more, in conveying to his pupils some of his own sense of appreciation by the potency of suggestion.

In concluding this survey of the teacher's task the ^{Con-} warning should be repeated that the experience of the classroom is more complex than the separate aspects ^{clusion} which a general analysis must offer to the reader. To know, to feel and to do are the ultimates of living, and they are indissolubly bound together. Any analysis of method is so far formal and artificial, and the teacher together with his pupils must achieve the synthesis which reunites the components in experience. The teacher is greater than the method he uses, and the child is greater than the teacher, for the teacher is to serve the child and to help him to achieve his

freedom. This aim transcends all, for the purpose of education is to enable the child to live a richer life by the development of his natural powers within the framework of society. No formal steps of teaching and no particular label of method will suffice for all the situations that emerge in the school, since life will not conform to the limitations they would impose. The teacher may learn from them, and develop his own power of self-criticism with their aid, but he, too, is both artist and craftsman, claiming the freedom of the expert to fashion the material in ways that he discovers best suited to the nature and to the development of his pupils.

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